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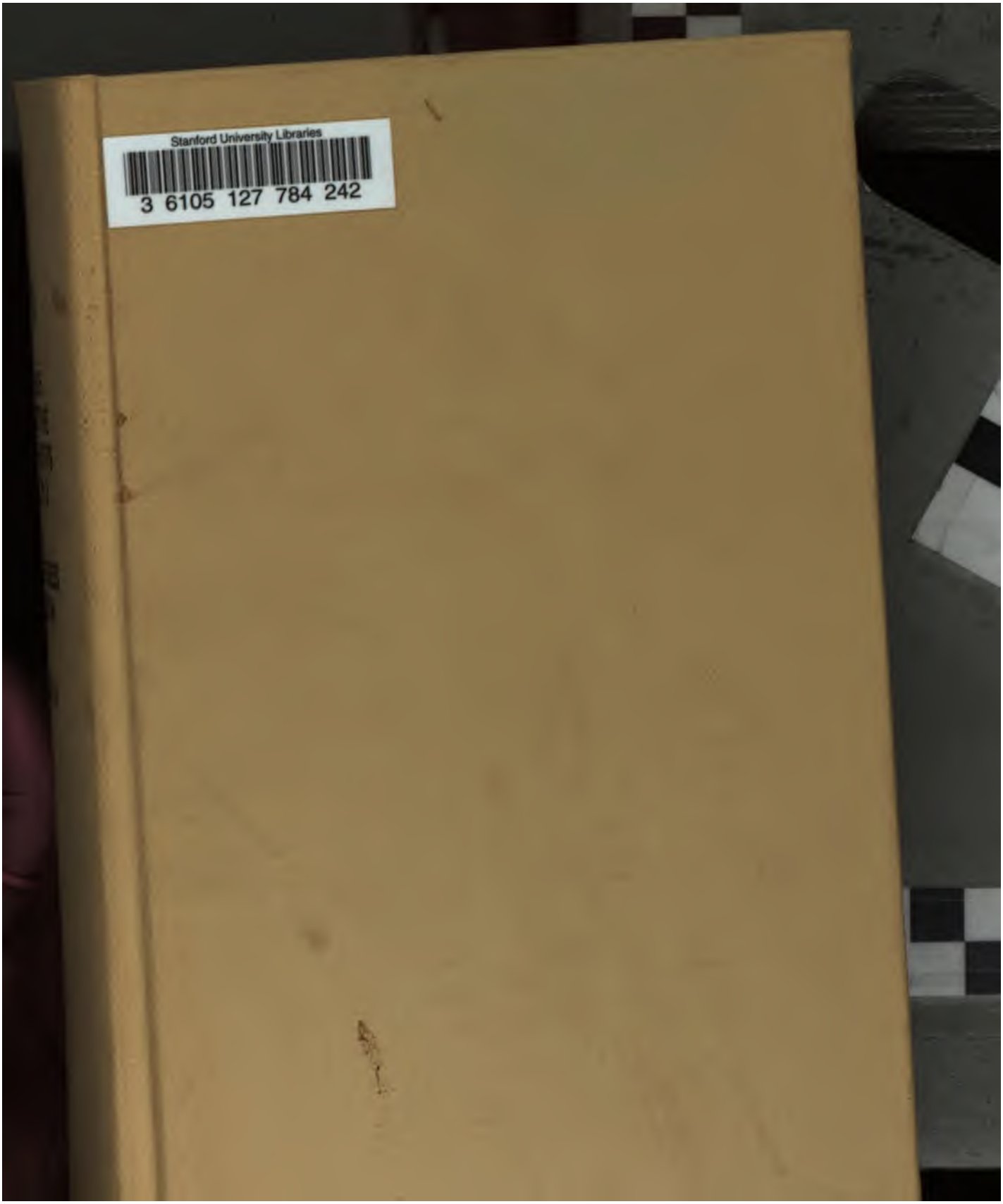
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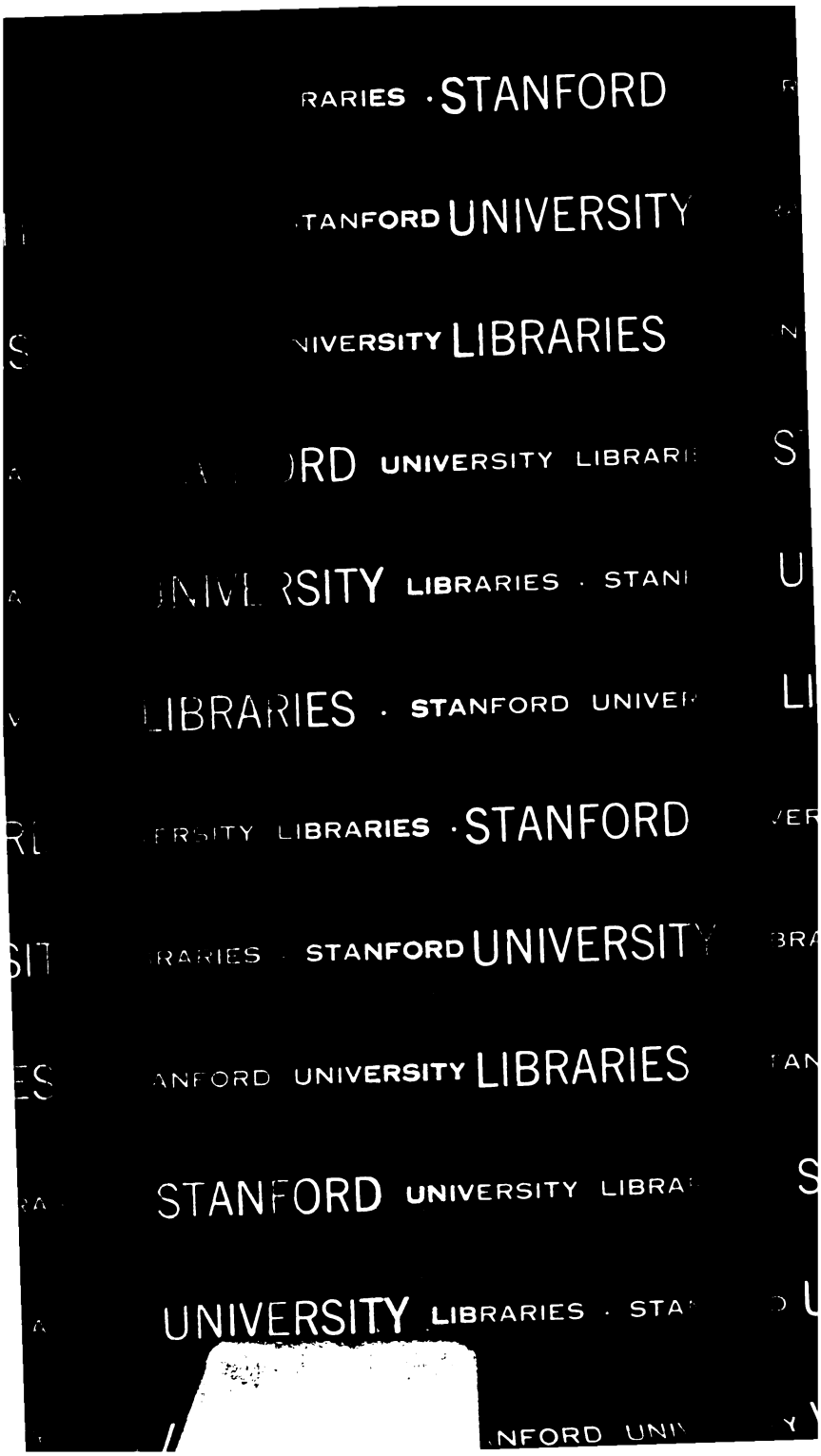
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IN NINETEEN VOLUMES.

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INDEX

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THIRTY-THIRD CONGRESS, FIRST SESSION.

IN NINETEEN VOLUMES.

VOLUME 1.....No. 1, Parts 1, 2, and 3.
VOLUME 2.....Nos. 2 and 3.
VOLUME 3.....Nos. 4 to 11.
VOLUME 4.....No. 12.
VOLUME 5.....Nos. 13 to 36.
VOLUME 6.....Nos. 37 and 38.
VOLUME 7.....No. 39, Parts 1 and 2.
VOLUME 8.....Nos. 40 to 65, except 53.
VOLUME 9.....No. 53.
VOLUME 10.....Nos. 66 to 85.
VOLUME 11.....Nos. 86 to 96.
VOLUME 12.....Nos. 97 to 106.
VOLUME 13.....Nos. 107 to 111.
VOLUME 14.....Nos. 112 to 120.
VOLUME 15.....No. 121, in several parts.
VOLUME 16.....Nos. 122 to 128, except 125.
VOLUME 17.....No. 125.
VOLUME 18.....No. 129.
VOLUME 19.....Commerce and Navigation.

Title.	Part.	Vol.	Doc.	Page.
A.				
Abert, J. J., Colonel Topographical Engineers, report of	3	1	1	3
Academy, estimates for the Naval	3	1	1	417
practice ship, propelled in part by steam, recommended for the Naval	3	1	1	402
annual report of the Board of Examiners of the Naval	3	1	1	404
Africa, W. F. Lynch, report of mission to	3	1	1	329
Alcatrazas island and Fort Point, California, fortifications at	....	10	82	
Alexander, Prof., report on alimentary substances	3	1	1	396
Alimentary substances, report of Prof. Alexander	3	1	1	396
Almanac, estimate for the Nautical	3	1	1	412
a report relative to the progress of the Nautical	3	1	1	394
Amazon river, free navigation of	1	1	1	7
report of Lieut. Gibbon	....	9	53	
American citizens, Spanish violation of the rights of	....	11	86	
List of documents with the same	....	11	86	2

Title.	Part.	Vol.	Doc.	Page.
American seamen, abstract returns of	....	3	10	
Amistad, schooner	1	1	1	5
Appraiser's store at San Francisco, letter from the Secretary of the Treasury recommending an appropriation for	....	5	15	
Appraiser's store at San Francisco, letter from the Secretary of the Treasury recommending an appropriation for	....	14	119	
Appropriations, letter from the Secretary of the Treasury, with estimates for the civil and diplomatic expenses of the government for the year ending June 30, 1855	....	2	2	
letter from the Secretary of the Treasury recommending an appropriation for an appraiser's store at San Francisco	....	5	15	
letter from the Secretary of the Treasury recommending an appropriation for an appraiser's store at San Francisco	....	14	119	
letter from the Secretary of the Treasury relative to paying Gibbons & Kelly for extra work on light-houses on the Pacific	....	14	113	
letter from the Secretary of the Treasury relative to an appropriation for an assay office in New York	....	14	117	
for the War Department for the fiscal year ending June 30, 1853	....	3	5	
for carrying into effect certain Indian treaties, estimates of	....	16	122	
to meet the debts of the last Mexican Boundary Survey Commission	....	5	33	
Area of each State and Territory, a report showing the	....	10	80	
Armories, applications for the office of Superintendent of the national	....	16	128	
letter from the Secretary of War, with a statement of expenditures at the national	....	5	19	
Army and navy	1	1	1	10
Army Register, transcript of	....	8	59	
Army Register, for the year 1854	....	10	66	
Assay office in New York, letter from the Secretary of the Treasury relative to an appropriation for	....	14	117	
Astronomical Expedition (in several parts)	....	15	121	
Attorney General, letter on the manner of conducting the legal business of the government	....	11	95	
Austria, correspondence between the State Department and the American chargé at	....	8	41	
B.				
Bache, A. D., Superintendent of the Coast Survey, report of	....	4	12	
Balances, letter from the Comptroller of the Treasury, with lists of	....	5	26	
Banks, report on the condition of the State	....	12	102	
Beecher, Captain Thaddeus, and crew, of the schooner North Carolina, imprisonment of	....	5	29	
Belligerents and neutrals, rights claimed by, and accorded to, in the war now pending between certain European powers	....	12	103	
Big Sioux river, survey of road from Mendota to	....	12	97	
Black Warrior, report relative to the seizure of the	....	10	76	
Blackwater harbor, estimates for	3	1	1	143
Blake, Commander, report relative to a coal depot at Key West, Florida	3	1	1	410
Boarding station at the Southwest Pass of the Mississippi river	....	10	69	
Boundary line between Great Britain and the United States on the northwest	1	1	1	4
Brazos river, Texas, Georgetown harbor, South Carolina, and Savannah river, Georgia, report of surveys of	....	16	124	
Breakwater at Point Isabel, Texas, estimates for	....	10	81	

Title.	Part.	Vol.	Doc.	Page.
British Minister, message from the President transmitting two communications from the British Minister, relative to health of immigrants on shipboard from foreign countries	....	13	116	
British provinces and the United States, boundary line on the northwest	1	1	1	
Brooklyn navy-yard lands, postponement of sale recommended	3	1	1	4
Bureaus, letter from the Secretary of the Treasury relative to the compensation of the heads of	....	14	120	
C.				
California, appropriation for an appraiser's store at San Francisco	....	5	15	
appropriation for an appraiser's store at San Francisco	....	14	119	
marine hospital at San Francisco, memorial of the contractor	....	8	54	
additional estimates for marine hospital at San Francisco	....	11	94	
estimates for the custom-house at San Francisco	....	14	118	
letter from the Secretary of War relative to pay of volunteers under Captain J. C. Fremont, in	....	10	77	
fotifications at Fort Point and Alcatrazas island	....	10	82	
letter from the Secretary of the Interior, with an estimate for surveying service in	....	11	96	
California land claims, estimates for salaries and expenses of the commission for	....	5	35	
Campbell, James, Postmaster General, report of	3	1	1	6
Cape May, letter from Secretary of War relative to survey of Crow shoal	....	8	56	
Capitol Extension, report on the	2	1	1	
Capitol and penitentiary of Minnesota, letter from the Secretary of the Treasury relative to finishing the	....	8	48	
Cayuse war in Oregon, letter from the Secretary of the Treasury relative to a further appropriation for expense of	....	8	45	
Census, letter from the Secretary of the Interior, with a report of the Superintendent of	....	3	9	
Central America	1	1	1	
full mission to	1	1	1	
Chargé d'affaires, &c., to foreign courts	....	10	67	
Cherokees, east and west of the Mississippi river, letter from the Secretary of the Interior relative to an appropriation for the	....	10	85	
Chickasaw trust fund and land sales, condition of the	....	5	34	
Chihuahua, boundary line between New Mexico and the Mexican State of	1	1	1	
China, intercourse with	1	1	1	
China, correspondence between the State Department and the late Commissioner to	....	16	123	
Claims of our citizens against Great Britain	1	1	1	
Clerks and others in the Navy Department	....	8	58	
State Department	....	5	23	
Treasury Department	....	6	38	
War Department	....	8	61	
Clothing and provisions, estimate for	3	1	1	
Coal depot for naval purposes at Key West	3	1	1	
Coast Survey, report of A. D. Bache	....	4	12	
list of employés in the	....	5	13	
Colbert's Shoals, report relative to removal of obstructions in the Tennessee river at	....	8	51	
Columbia, District of	1	1	1	
Commanding General Winfield Scott, report of	2	1	1	
Commerce and navigation	....	19		
Commercial intercourse with foreign nations	....	8	47	
Commissary General, George Gibson, report of	2	1	1	

INDEX.

Title.	Part.	Vol.	Doc.	Page.
antinople, message from the President, transmitting copies of respondence between the State Department and the American ister at	....	13	110	
ruction, equipment, and repair, detailed estimates for	3	1	1	545
gent expenses of the Interior Department	....	11	88	
Military Establishment	....	5	17	
Navy Department	....	10	77	
State Department and foreign intercourse	....	3	7	
Treasury Department	....	5	20	
War Department	....	8	49	
List of papers with the same	....	8	49	1
icts, letter from the Secretary of War, with a statement of	....	8	63	
icts for the improvement of harbors and rivers on Lake Michi-	....	10	71	
Martin, oath of allegiance to the United States	1	1	1	26
certificate of naturalization	1	1	1	50
H. K., Colonel of Ordnance, report of	3	1	1	263
icent City" steamer, at Havana, letter from the Secretary of e relative to	....	11	90	
shoal, at Cape May, letter from the Secretary of War relative he survey of	....	8	56	
and Porto Rico	1	1	1	4
m-house at San Francisco, California, appropriation for	....	14	118	
m-houses, original cost of	....	8	60	
ms, letter from the Commissioner, with a list of balances due n officers of	....	8	57	
rs, letter from the Secretary of the Treasury, recommending ippropriation for revenue	....	5	13	
D.				
, Charles H., report relative to the Nautical Almanac	3	1	1	394
, Jefferson, Secretary of War, report of	2	1	1	3
List of documents with the same	2	1	1	35
s, resignations, and dismissions in the navy	3	1	1	322
tions and fines, report of the Postmaster General	....	5	22	
loines and Rock River rapids, in the Mississippi river	....	12	104	
rsements and receipts of the Post Office Department	....	12	101	
ssions, deaths, and resignations in the navy	3	1	1	322
ct of Columbia	1	1	1	13
insane asylum of the	1	1	1	13
annual report of the Board of Directors of the penitentiary	....	10	72	
and yards, postponement of sale of the navy-yard land at Brooklyn recommended	3	1	1	409
estimates for	3	1	1	435
n, James C., Secretary of the Navy, report of	3	1	1	297
List of documents with the same	3	1	1	320
E.				
yés in the Coast Survey, list of	....	5	13	
eer, Joseph G. Totten, report of Chief	2	1	1	157
eers, report of the Board relative to western rivers and lake bors	3	1	1	195
ment, Repair, and Construction, estimates for	3	1	1	545
Prof., letter relative to meteorological observations from	3	1	1	393
ates for the civil and diplomatic expenses of the government for the year ending June 30, 1855	....	2	2	
for the southwest executive building	3	1	1	680
for the navy, summary statement *of*	3	1	1	681
general, for *the support of the marine corps*	3	1	1	685
general, for the support of the navy	3	1	1	684

Title.	Part.	Vol.	Doc.	Page.
Estimates, general, for special objects under the Navy Department	3	1	1	686
for the office of the Secretary of the Navy	3	1	1	412
for public buildings and grounds	....	5	25	
for completion of Huron harbor	3	1	1	139
for repairs at Vermillion	3	1	1	143
for repairs at Blackwater harbor	3	1	1	143
for opening the channel at St. Clair	3	1	1	145
additional, for marine hospital at San Francisco, Cal	....	11	94	
for custom-house at San Francisco, Cal	....	14	118	
of expense of Rogue River war	....	12	98	
for a breakwater at Point Isabel, Texas	....	10	81	
European Powers, message from the President transmitting copies of correspondence relative to the rights accorded to neutrals, and the rights claimed by belligerents, in the war pending between certain	....	12	103	
Expenditure of the contingent fund of the Navy Department	....	10	79	
Treasury Department	....	5	20	
Expenditures and receipts of the government for the year ending June 30, 1853	....	14	112	
Expenditures under the head of contingent expenses, as settled at the office of the Fourth Auditor of the Treasury	3	1	1	688
Expenses, civil and diplomatic, estimates for the year ending June 30, 1855	....	2	2	
of the Rogue River war, estimate of	....	12	98	
contingent, of the State Department and foreign intercourse	....	3	7	
contingent, of the War Department	....	8	49	
List of papers with the same	....	8	49	1
F.				
Finances, report of the Secretary of the Treasury	....	2	3	
of the country	1	1	1	9
Fines and deductions, letter from the Postmaster General, with a report of	....	5	22	
Fisheries, message from the President, with letters, &c., relative to the	....	5	21	
on the northeastern coast	1	1	1	4
Foreign Powers, our diplomatic relations with	1	1	1	4
Foreign nations, commercial intercourse with	....	8	47	
Foreign intercourse, contingent expenses of the State Department	....	3	7	
Foreign gold and silver coin, report relative to the value of	....	10	68	
Foreign courts, American ministers, chargés, &c., at	....	10	67	
Fortifications at Fort Point and Alcatrazas island, Cal	....	10	82	
Fort Point and Alcatrazas island, Cal., fortifications at	....	10	82	
Fourth Auditor of the Treasury, expenditures under the head of contingent expenses, as settled at his office	3	1	1	688
France, our relations with	1	1	1	4
Frauds upon the Pension Office	....	12	105	
Fremont, Capt. J. C., letter from the Secretary of War, relative to pay of volunteers in California, under	....	10	77	
G.				
General Land Office, report of John Wilson, Commissioner of the	1	1	1	71
Schedule of documents with the same, including the annual reports of surveyors general.	1	1	1	89
report of John Wilson, Commissioner, relative to depredations on timber lands	....	14	115	
Georgetown and Washington, water for	1	1	1	13
Georgetown harbor, South Carolina; Savannah river, Georgia; and Brazos river, Texas—report of surveys of	....	16	124	
Georgia, report of survey of Savannah river	....	16	124	

Title.	Part.	Vol.	Doc.	Page.
ibbons and Kelly, relative to pay for extra work on light-houses on the Pacific coast	....	14	113	
ibbon, Lieut., explorations of the Amazon river, report of	....	9	53	
ibson, George, report of Commissary General	2	1	1	141
old and silver coin, report relative to the value of foreign	....	10	69	
reat Britain, claims of our citizens against	1	1	1	4
message from the President, transmitting copies of a treaty with	....	16	127	
uano, exportation of	....	10	70	
unison's report of Pacific railroad route survey	....	5	18	
H.				
larbor and river improvements, orders respecting	2	1	1	45
orders respecting	3	1	1	18
general order from Secretary of War relative to	3	1	1	21
larbors and rivers on Lake Michigan, contracts for improvement of	....	10	71	
leads of Bureaus, compensation of	....	14	120	
lospitals, report of Col. S. H. Long, relative to marine	3	1	1	57
lulsemann's letter to William L. Marcy, Secretary of State	1	1	1	25
luron harbor, estimates for	3	1	1	139
lydrographical office, estimates for	3	1	1	417
lydrography and Ordnance Bureau, estimates for	3	1	1	417
I.				
llinois river improvements, report of Col. S. H. Long relative to	3	1	1	84
mmigrants on ship-board from foreign countries, message from the President, transmitting two communications from the British minister relative to the health of	....	13	116	
mmigrants by sea to the United States, health and comfort of	....	12	98	
ndian Affairs—				
No. 53, report of D. P. Aspberry	1	1	1	390
No. 37, report of Francis Barker	1	1	1	340
No. 89, letter to E. F. Beale	1	1	1	464
No. 90, letter to E. F. Beale	1	1	1	466
No. 91, report of E. F. Beale	1	1	1	467
No. 92, report of E. F. Beale	1	1	1	469
No. 101, letter to E. F. Beale	1	1	1	480
No. 94, letter from E. F. Beale	1	1	1	474
No. 95, letter from E. F. Beale	1	1	1	475
No. 6, report of A. Bingham	1	1	1	282
No. 17, report of James Loyd Breck	1	1	1	304
No. 48, report of George Butler	1	1	1	381
No. 74, report of Cyrus Byington	1	1	1	422
No. 58, report of Thomas C. Carr	1	1	1	394
No. 67, report of Jason D. Chamberlain	1	1	1	408
No. 66, report of D. H. Cooper	1	1	1	405
No. 88, letter to A. Culbertson	1	1	1	463
No. 25, report of A. Cumming	1	1	1	320
No. 10, report of Rev. F. H. Cumming	1	1	1	288
No. 51, report of D. B. Cummings	1	1	1	387
No. 46, report of A. J. Dorn	1	1	1	377
No. 45, report of Thomas S. Drew	1	1	1	371
No. 28, report of J. B. Duerink	1	1	1	325
No. 57, report of E. B. Duncan	1	1	1	391
No. 93, report of H. B. Edwards	1	1	1	472
No. 100, estimates for removing Indians	1	1	1	480
No. 44, report of Thomas Fitzpatrick	1	1	1	359
No. 19, report of *J. E. Fletcher*	1	1	1	307
No. 33, report of Harvey W. Forman	1	1	1	335

Title.	Part.	Vol.	Doc.	Pag
Indian Affairs—Continued.				
No. 52, report of W. H. Garrett	1	1	1	
No. 82½, instructions to Joseph M. Garrison	1	1	1	
No. 41, report of James M. Gatewood	1	1	1	
No. 4, report of Henry C. Gilbert	1	1	1	
No. 15, report of Gov. Willis A. Gorman	1	1	1	
No. 80, report of E. A. Graves	1	1	1	
No. 96, statement of Hon. Wm. M. Gwin	1	1	1	
No. 18, report of Sherman Hall	1	1	1	
No. 42, report of William Hamilton	1	1	1	
No. 75, report of John Harrell	1	1	1	
No. 62, report of A. L. Hay	1	1	1	
No. 16, report of D. B. Herriman	1	1	1	
No. 81, report of J. H. Holeman	1	1	1	
No. 73, report of E. Hotchkin	1	1	1	
No. 11, report of Francis Huebschmann	1	1	1	
No. 1, instructions of the Secretary of the Interior relative to	1	1	1	
No. 31, report of S. M. Irwin	1	1	1	
No. 39, report of B. A. James	1	1	1	
No. 3, report of Marcus H. Johnson	1	1	1	
No. 38, report of Thomas Johnson	1	1	1	
No. 70, report of C. Kingsbury	1	1	1	
No. 9, report of A. Lacoste	1	1	1	
No. 68, report of Edwin Lathrop	1	1	1	
No. 8, report of P. P. Lefevre	1	1	1	
No. 55, report of Mary Lewis	1	1	1	
No. 59, report of R. M. Longbridge	1	1	1	
No. 27, report of D. Lykins	1	1	1	
Report of George W. Manypenny, Commissioner of	1	1	1	
No. 2, report of George W. Manypenny relative to Indians west of Missouri and Iowa	1	1	1	
No. 76, report of W. L. McAlister	1	1	1	
No. 98, letter from Hon. J. A. McDougal	1	1	1	
No. 40, report of Rev. Jotham Meeker	1	1	1	
No. 79, report of Gov. D. Meriwether	1	1	1	
No. 36, report of E. S. Morse and J. G. Pratt	1	1	1	
No. 87, instructions to Lieut. Mullen	1	1	1	
No. 21, report of R. G. Murphy	1	1	1	
No. 78, report of R. S. Neighbors	1	1	1	
No. 82, report of Joel Palmer	1	1	1	
No. 99, report of Lieut. Parke	1	1	1	
No. 71, report of R. D. Potts	1	1	1	
No. 36, report of J. G. Pratt and E. S. Morse	1	1	1	
No. 24, report of P. Prescott	1	1	1	
No. 30, report of Sarah Rea	1	1	1	
No. 50, report of H. D. Reese	1	1	1	
No. 72, report of Alexander Reid	1	1	1	
No. 23, report of Rev. S. R. Riggs	1	1	1	
No. 34, report of B. F. Robinson	1	1	1	
No. 35, report of B. F. Robinson	1	1	1	
No. 65, report of J. C. Robinson	1	1	1	
No. 56, report of Thomas B. Ruble	1	1	1	
No. 47, report of John Schuenmaker	1	1	1	
No. 5, report of Rev. James Shaw	1	1	1	
No. 13, report of Jeremiah Slingerland	1	1	1	
No. 7, report of George Smith	1	1	1	
No. 64, report of A. J. Smith	1	1	1	
No. 63, report of B. H. Smithson	1	1	1	
No. 83, instructions to Gov. I. I. Stevens	1	1	1	
No. 84, letter from Gov. I. I. Stevens	1	1	1	
No. 85, letter from Gov. I. I. Stevens	1	1	1	
No. 86, letter from Gov. I. I. Stevens	1	1	1	
No. 54, report of E. Stidham	1	1	1	

Title.	Part.	Vol.	Doc.	Page.
Indian Affairs—Continued.				
No. 99, report of Lieut. Stoneham	1	1	1	478
No. 12, report of John V. Suydam	1	1	1	291
No. 14, report of John V. Suydam	1	1	1	294
No. 77, report of N. M. Talbott	1	1	1	424
No. 60, report of William H. Templeton	1	1	1	397
No. 20, report of Francis D. Tivoldi	1	1	1	312
No. 29, report of D. Vanderslice	1	1	1	327
No. 43, report of Alfred D. Vaughn	1	1	1	352
No. 61, report of D. G. Watson	1	1	1	397
No. 97, letter from Hon. J. B. Weller	1	1	1	476
No. 26, report of John W. Whitefield	1	1	1	322
No. 32, report of James Williams	1	1	1	334
No. 99, report of Lieut. Williamson	1	1	1	478
No. 22, report of Rev. Thomas S. Williamson	1	1	1	315
No. 49, report of S. A. Worcester	1	1	1	384
No. 69, report of H. B. Wright	1	1	1	409
No. 80¼, report of Gov. Brigham Young	1	1	1	441
Indian hostilities in Oregon	2	1	1	37
Indian service in New Mexico, letter from the Secretary of the Interior, asking for an additional appropriation for	....	8	43	
Indian titles to land west of the Missouri and Iowa, extinguishment of	....	10	84	
Indians, letter from the Second Auditor of the Treasury, with copies of accounts of persons charged with the disbursement of moneys for the benefit of	....	6	37	
in Oregon and Washington Territories, letter from the Secretary of the Interior, with a report of the Commissioner of Indian Affairs	....	8	55	
Insane Asylum of the District of Columbia	1	1	1	13
Interior Department, letter from the Secretary, with a statement of balances	....	3	6	
contingent expenses of the	....	11	88	
Interior, letter from the Secretary, with estimates for salaries and expenses of the commission for California land claims	....	5	35	
letter from the Secretary, with a statement of the number of acres of public lands which have been donated	....	8	52	
letter from the Secretary relative to appropriations for the Cherokees east and west of the Mississippi	....	10	85	
letter from the Secretary, with an estimate for surveying service of California	....	11	96	
letter from the Secretary, asking an appropriation to meet the debts of the last commission on the Mexican boundary survey	....	5	35	
letter from the Secretary, with a list of rejected applicants for pensions	....	5	27	
Internal improvements	1	1	1	14
J.				
Japan, intercourse with	1	1	1	6
Jesup, Thomas S., Quartermaster General, report of	2	1	1	129
Judicial system	1	1	1	14
Judicial system, plan for enlargement of the	....	10	73	
K.				
Kelly & Gibbons, an appropriation to pay for extra work on light-houses on the Pacific	....	14	113	
Key West, report of Commander Blake relative to a coal depot for naval purposes at	3	1	1	410
King, William R., Vice *President of the United States*, death of	1	1	1	20
Koszta, *Martin*	1	1	1	5
oath of allegiance to the United States	1	1	1	26

Title.	Part.	Vol.	Doc.	Page
Koszta, Martin, certificate of naturalization	1	1	1	
seizure and rescue of	....	11	91	
List of documents with the same	....	11	91	
L.				
Lake harbors and western rivers, report of engineers	3	1	1	
report of James Kearney	3	1	1	2
report of James Kearney	3	1	1	2
Land Office, report of Commissioner John Wilson	1	1	1	
schedule of documents with the same, including the annual reports of surveyors general	1	1	1	
report of Commissioner John Wilson, relative to depredations upon timber lands	....	14	115	
Land sales and Chickasaw trust fund, condition of	....	5	34	
Lands west of the Missouri and Iowa, extinguishment of Indian titles to	....	10	84	
Larned, Benjamin F., Paymaster General, report of	2	1	1	1
Lawson, Thomas, Surgeon General, report of	2	1	1	1
Legal business of the government, report of the Attorney General relative to the	....	11	95	
Light-houses on the Pacific, an appropriation to pay Gibbons & Kelly for extra work on	....	14	113	
London Exhibition, illustrated works of the	....	5	32	
Long, S. H., Colonel of Engineers	3	1	1	
Colonel of Engineers	3	1	1	
Lynch, W. F., mission to Africa, report of	3	1	1	3
M.				
Macomb, J. N., engineer, report of	3	1	1	
Mail ocean steamship service, estimates for	....	3	11	
Mail, offers for carrying	....	17	125	
Mail-route No. 5502, from Montgomery to Mobile, Alabama	....	11	89	
Mail service, estimate for	....	11	92	
estimates for ocean	....	11	93	
Manypenny, George W., Superintendent of Indian Affairs, report of	1	1	1	2
Schedule of documents with the same.—(See *Indian Affairs*)	1	1	1	2
Marcy, William L., Secretary of State, report of	1	1	1	
letter to Mr. Hulsemann	1	1	1	
Marine corps, report of the commandant, with detailed estimates from the paymaster and quartermaster	3	1	1	6
general estimate for support of	3	1	1	6
Marine corps and navy, pay of officers	....	8	44	
Marine hospital fund, letter from the Secretary of the Treasury, with a statement of receipts and expenditures of the	....	5	28	
Marine hospital at San Francisco, Cal., memorial of contractor for the	....	8	54	
additional estimates for	....	11	94	
Martha Washington steamboat, burning of	....	11	87	
Mason, Charles, Commissioner of Patents, report of	1	7	39	
table of contents to Part 1	1	7	39	
report of	2	7	39	
index to Part 2	2	7	39	4
McClelland, Robert, Secretary of the Interior, report of	1	1	1	
Medicine and surgery, estimates	3	1	1	6
Mendota, road from, to Big Sioux river, report of survey of	....	12	97	
Message, annual, of the President	1	1	1	
our diplomatic relations with foreign Powers	1	1	1	
fisheries on the northeastern coast	1	1	1	
Central America	1	1	1	
claims of our citizens against Great Britain	1	1	1	

Title.	Part.	Vol.	Doc.	Page.
Message—Continued.				
boundary line between the United States and the British Provinces in the northwest	1	1	1	4
France, our relations with	1	1	1	4
Spain, our relations with	1	1	1	4
Cuba and Porto Rico	1	1	1	4
schooner Amistad	1	1	1	5
Martin Koszta	1	1	1	5
Commander Ingraham	1	1	1	5
China, intercourse with	1	1	1	6
Japan, intercourse with	1	1	1	6
Chihuahua, boundary line between New Mexico and the Mexican State of	1	1	1	6
Central America, full mission to	1	1	1	7
Amazon river, free navigation of	1	1	1	7
Peru, our relations with	1	1	1	7
finances of the country	1	1	1	9
army and navy	1	1	1	10
Post Office Department	1	1	1	10
Pension Bureau, frauds upon	1	1	1	11
public lands surveyed, &c	1	1	1	11
District of Columbia	1	1	1	13
Insane Asylum of the District of Columbia	1	1	1	13
water for Washington and Georgetown	1	1	1	13
judicial system	1	1	1	13
Smithsonian Institution	1	1	1	14
internal improvements	1	1	1	14
Pacific railroad routes, survey of	1	1	1	16
Vice President, death of	1	1	1	20
William L. Marcy, Secretary of State, report of	1	1	1	25
Hulsemann's letter to Mr. Marcy	1	1	1	25
Mr. Marcy's letter to Mr. Hulsemann	1	1	1	30
Martin Koszta, oath of allegiance to the United States	1	1	1	26
Martin Koszta, certificate of naturalization	1	1	1	50
report of R. McClelland, Secretary of the Interior	1	1	1	53
report of John Wilson, Commissioner of the General Land Office	1	1	1	71
Schedule of documents with the same, including annual reports of surveyors general	1	1	1	89
report of George W. Manypenny, Commissioner of Indian Affairs	1	1	1	243
reports of superintendents of Indian affairs, agents, superintendents and teachers of schools in the Indian country, &c., accompanying the annual report of the Commissioner of Indian Affairs for the year 1853	1	1	1	265
No. 1. Instructions from the Secretary of the Interior to Commissioner George W. Manypenny	1	1	1	268
2. Report of Commissioner George W. Manypenny	1	1	1	269
3. Report of Marcus H. Johnson, sub-agent for New York Indians	1	1	1	276
4. Report of Henry C. Gilbert, agent for Indians in Michigan	1	1	1	278
5. Mission report of Rev. James Shaw	1	1	1	281
6. Mission report of Rev. A. Bingham	1	1	1	282
7. Mission report of Rev. George Smith	1	1	1	284
8. School report of Right Rev. P. P. Lefevre	1	1	1	286
9. School report of A. Lacoste	1	1	1	288
10. Mission report of Rev. F. H. Cumming	1	1	1	288
11. Report of Superintendent Francis Huebschmann	1	1	1	284
12. Report of Sub-Agent John V. Suydam	1	1	1	291
13. School report of Jeremiah Slingerland	1	1	1	296

Title.	Part.	Vol.	Doc.	Pag
Message—Continued.				
No. 14. Abstract of school reports, by John V. Suydam	1	1	1	
15. Report of Gov. Willis A. Gorman, superintendent ex-officio	1	1	1	
16. Report of Agent D. B. Herriman	1	1	1	
17. School report of James Loyd Breck	1	1	1	
18. School report of Sherman Hall	1	1	1	
19. Report of Agent J. E. Fletcher	1	1	1	
20. School report of Francis D. Tivoldi	1	1	1	
21. Report of Agent R. G. Murphy	1	1	1	
22. Mission report of Rev. Thomas S. Williamson	1	1	1	
23. Mission report of Rev. S. S. Riggs	1	1	1	
24. Farm report of P. Prescott	1	1	1	
25. Report of Superintendent A. Cumming	1	1	1	
26. Report of Agent John W. Whitfield	1	1	1	
27. School report of D. Lykins	1	1	1	
28. School report of J. B. Duerink	1	1	1	
29. Report of Agent D. Vanderslice	1	1	1	
30. School report of Sarah Rea	1	1	1	
31. School report of S. M. Irwin	1	1	1	
32. School report of James Williams	1	1	1	
33. Farm report of Harvey W. Forman	1	1	1	
34. Report of Agent B. F. Robinson	1	1	1	
35. School report of "Friends"	1	1	1	
36. School report of E. S. Morse and J. G. Pratt	1	1	1	
37. School report of Francis Barker	1	1	1	
38. School report of Thomas Johnson	1	1	1	
39. Report of Agent B. A. James	1	1	1	
40. Mission report of Rev. Jotham Meeker	1	1	1	
41. Report of Agent James M. Gatewood	1	1	1	
42. School report of William Hamilton	1	1	1	
43. Report of Agent Alfred D. Vaughn	1	1	1	
44. Report of Agent Thomas Fitzpatrick	1	1	1	
45. Report of Superintendent Thomas S. Drew	1	1	1	
46. Report of Agent A. J. Dorn	1	1	1	
47. School report of John Schuenmaker	1	1	1	
48. Report of Agent George Butler	1	1	1	
49. Mission and school report of Rev. S. A Worcester	1	1	1	
50. School report of H. D. Reese	1	1	1	
51. School report of D. B. Cummings	1	1	1	
52. Report of Agent W. H. Garrett	1	1	1	
53. School report of D. P. Aspberry	1	1	1	
54. School report of E. Stidham	1	1	1	
55. School report of Mary Lewis	1	1	1	
56. School report of Thomas B. Ruble	1	1	1	
57. Mission report of Rev. E. B. Duncan	1	1	1	
58. School report of Thomas C. Carr	1	1	1	
59. School report of R. M. Longbridge	1	1	1	
60. School report of William H. Templeton	1	1	1	
61. School report of D. G. Watson	1	1	1	
62. School report of A. L. Hay	1	1	1	
63. Report of Sub-Agent B. H. Smithson	1	1	1	
64. Report of A. J. Smith	1	1	1	
65. School report of J. C. Robinson	1	1	1	
66. Report of Agent D. H. Cooper	1	1	1	
67. School report of Jason D. Chamberlain	1	1	1	
68. School report of Edwin Lathrop	1	1	1	
69. School report of H. B. Wright	1	1	1	
70. School report of C. Kingsbury	1	1	1	
71 School report of R. D. Potts	1	1	1	
72. School report of Alexander Reid	1	1	1	

Title.	Part.	Vol.	Doc.	Page.
essage—Continued.				
No. 73. School report of E. Hotchkin	1	1	1	419
74. School report of Cyrus Byington	1	1	1	422
75. School report of John Harrell	1	1	1	423
76. School report of W. L. McAlister	1	1	1	424
77. School report of N. M. Talbott	1	1	1	424
78. Report of Principal Special Agent R. S. Neighbors	1	1	1	425
79. Report of Gov. D. Meriwether, superintendent ex-officio	1	1	1	429
80. Report of Agent E. A. Graves	1	1	1	434
80½. Report of Gov. Brigham Young, superintendent ex-officioo	1	1	1	441
81. Report of Agent J. H. Holeman	1	1	1	443
82. Report of Superintendent Joel Palmer	1	1	1	447
82½. Instructions from Superintendent Palmer to Agent Jos. M. Garrison	1	1	1	451
83. Instructions to Gov. I. I. Stevens, superintendent ex-officio	1	1	1	453
84. Letter from Gov. I. I. Stevens	1	1	1	457
85. Letter from Gov. I. I. Stevens	1	1	1	458
86. Letter from Gov. I. I. Stevens	1	1	1	460
87. Instructions of Gov. I. I. Stevens to Lieut. Mullen	1	1	1	462
88. Instructions of Gov. I. I. Stevens to A. Culbertson	1	1	1	463
89. Instructions from the Secretary of the Interior to Superintendent Beale	1	1	1	464
90. Instructions from the Secretary of the Interior to Superintendent Beale	1	1	1	466
91. Report of Superintendent Beale	1	1	1	467
92. Report of Superintendent Beale	1	1	1	469
93. Report of H. B. Edwards	1	1	1	472
94. Letter from Superintendent Beale to Commissioner of Indian Affairs	1	1	1	474
95. Letter from Superintendent Beale to Hon. Messrs. Gwin and Latham	1	1	1	475
96. Statement of Hon. Wm. M. Gwin	1	1	1	476
97. Letter to Superintendent Beale, from Hon. John B. Weller	1	1	1	476
98. Letter from Hon. J. A. McDougal to Superintendent Beale	1	1	1	477
99. Letter from Lieutenants Stoneman, Williamson, and Parke, to Superintendent Beale	1	1	1	478
100. Estimate of expense for removing Indians	1	1	1	480
101. Letter from Commissioner of Indian Affairs to Superintendent Beale	1	1	1	480
Report of L. P. Waldo, Commissioner of Pensions	1	1	1	485
essage from the President, transmitting letters, &c., relative to the fisheries	....	5	21	
transmitting correspondence in reference to the imprisonment of Captain Thaddeus Beecher and crew, of the schooner North Carolina	....	5	29	
transmitting works illustrative of the London Exhibition	....	5	32	
transmitting the annual report of the Director of the mint	....	8	40	
transmitting correspondence between the State Department and the American charge at Austria	....	8	41	

Title.	Part.	Vol.	Doc.	Page
Message from the President, transmitting a report from the Secretary of State on the subject of the commercial intercourse of the United States with foreign nations	....	8	47	
transmitting Lieut. Gibbon's report of the explorations of the Amazon river	....	9	53	
transmitting report upon the exportation of guano	....	10	70	
transmitting copies of contracts for the improvement of harbors and rivers in Lake Michigan	....	10	71	
transmitting annual report of the Board of Inspectors of the penitentiary of the District of Columbia	....	10	72	
transmitting a plan for the modification and enlargement of the judicial system	....	10	73	
with a report in reference to the seizure of the "Black Warrior"	....	10	76	
with a statement showing the area of each State and Territory	....	10	80	
transmitting a report in regard to the extinguishment of the Indian titles to lands west of the Missouri and Iowa	....	10	84	
transmitting a report relative to Spanish violations of the rights of American citizens	....	11	86	
transmitting list of documents accompanying the same	....	11	86	
transmitting a communication from the Secretary of State relative to the steamer "Crescent City," at Havana	....	11	90	
transmitting correspondence growing out of seizure and rescue of Martin Koszta	....	11	91	
transmitting list of documents accompanying the same	....	11	91	
transmitting report of the Attorney General, suggesting modifications in the manner of conducting the legal business of the government	....	11	95	
transmitting copy of correspondence on the subject of the health and comfort of immigrants by sea to the United States	....	12	98	
transmitting correspondence relative to Rev. J. C. Richmond and the United States consul at Trieste	....	12	100	
transmitting list of documents accompanying the same	....	12	100	
transmitting correspondence relative to the rights accorded to neutrals, and the rights claimed by belligerents, in the war pending between certain European powers	....	12	103	
transmitting correspondence in relation to the imposition of "sound dues" upon our commerce to the Baltic	....	13	108	
transmitting copy of a treaty between the United States and Mexico	....	13	109	
transmitting copies of correspondence transmitted by the American Minister at Constantinople to the Department of State	....	13	110	

Title.	Part.	Vol.	Doc.	Page.
Message from the President, transmitting papers relative to instructions referred to by President Monroe, on the subject of the issue of commissions to private-armed vessels	....	13	111	
transmitting two communications from the British Minister, relative to the health of immigrants on shipboard from foreign countries to the United States	....	13	116	
transmitting report of astronomical expeditions, in several parts	....	15	121	
transmitting correspondence between the State Department and the late Commissioner to China	....	16	123	
transmitting reports relative to the destruction of San Juan de Nicaragua	....	16	126	
transmitting copy of a treaty with Great Britain	....	16	127	
Meteorological observations, letter from Prof Espy relative to	3	1	1	393
Mexican boundary survey, letter from the Secretary of the Interior asking an appropriation to meet the debts of the commission of the	....	5	33	
Mexican State of Chihuahua, boundary line between New Mexico and the	1	1	1	6
Mexico, message from the President transmitting a copy of a treaty between the United States and	....	13	109	
Michigan lake, contracts for improvement of harbors and rivers in	....	10	71	
Midshipmen, late cruise of the practice ship, report of commandant	3	1	1	406
Military establishment, letter from the Secretary of War, transmitting a statement of the contingent expenses of the	....	5	17	
Military roads in Oregon, instructions relative to	2	1	1	67
Militia, letter from Secretary of War, with abstract returns of the	....	8	50	
Milwaukie harbor, instructions by J. J. Abert relative to	3	1	1	178
letter from James Kearney	3	1	1	181
letter from J. J. Abert relative to	3	1	1	181
letter from J. J. Abert relative to	3	1	1	182
Ministers, chargé d'affaires, &c., at foreign courts	....	10	67	
Minnesota capitol and penitentiary, letter from Secretary of Treasury relative to finishing	....	8	48	
Mint of the United States, report of the Director relative to the condition of the dies of medals ordered by Congress	....	8	40	
List of the same	....	12	106	
Mississippi river, papers relative to a boarding-station at the South-west Pass of the	....	12	106	
Des Moines and Rock River rapids, in the	....	10	69	
Letter from the Secretary of War, transmitting a report on deepening the passes of the	....	12	104	
instructions relative to the survey of the Upper	3	5	16	
Mobile harbor, a report from the Secretary of War	....	1	1	75
		3	8	
N.				
National armories, applications for office of Superintendent of	....	16	128	
statement of expenditures	....	5	19	
Nautical Almanac, report relative to progress of	3	1	1	394
estimates of Superintendent	3	1	1	412
Naval Academy, a vessel propelled in part by steam recommended as a practice ship	3	1	1	402
annual report of the Board of Examiners	3	1	1	404
estimates for	3	1	1	417
Naval Observatory, estimates for	3	1	1	417
Navigation and commerce	....	19		
Navy and *army*	1	1	1	10

Title.	Part.	Vol.	Doc.	Pa
Navy Department, letter from the Secretary of the Navy, with lists of clerks, &c., in the	....	8	58	
statement of balances of appropriations, 1852 and 1853	3	1	1	
letter from the Secretary, with a statement of the expenditure of the contingent fund of the	....	10	79	
Navy, letter from the Secretary, with information relative to the steam navy of the United States	....	8	65	
letter from the Secretary, relative to the adaptation of ocean mail steamers to war purposes	....	10	75	
letter from the Secretary, with a statement of the amount of pay of officers of the marine corps and the	....	8	44	
report of James C. Dobbin, Secretary of the	3	1	1	
Navy, list of papers accompanying the report of the Secretary of the Navy, December 5, 1853	3	1	1	
A. List of deaths, resignations, and dismissions in the navy, since the last report	3	1	1	
B. Report of Commander W. F. Lynch, in relation to his mission to the coast of Africa	3	1	1	
C. Professor Espy's letter, in relation to meteorological observations	3	1	1	
D. Report of Lieutenant Charles H. Davis, superintendent of American Nautical Almanac, in relation to its progress	3	1	1	
E. Professor Alexander's report as to investigations and experiments upon the character of alimentary substances	3	1	1	
F. Recommendation of board of examiners of Naval Academy, that a vessel propelled in part by steam be used as the practice-ship	3	1	1	
G. Report of annual board of examiners, in relation to organization, condition, &c., of the Naval Academy	3	1	1	
H. Report by the commandant of midshipmen of the late cruise of the practice-ship	3	1	1	
I. Letter from chief of the Bureau of Yards and Docks, recommending that the sale of navy-yard lands at Brooklyn, authorized by act of March 3, 1853, be postponed	3	1	1	
K. Report of Commander Blake, as to arrangements for establishing a depot of coal for naval purposes at Key West	3	1	1	
No. 1. Detailed estimates of the office of the Secretary of the Navy, and detailed estimates of the superintendent of the Nautical Almanac	3	1	1	
No. 2. Report and detailed estimates of the chief of the Bureau of Ordnance and Hydrography, including Hydrographical Office and Naval Observatory, and Naval Academy	3	1	1	
No. 3. Report and detailed estimates of the chief of the Bureau of Yards and Docks	3	1	1	
No. 4. Report and detailed estimates of the chief of the Bureau of Construction, Equipment, and Repair	3	1	1	
No. 5. Report and detailed estimates of the chief of the Bureau of Provisions and Clothing	3	1	1	
No. 6. Report and detailed estimates of the chief of the Bureau of Medicine and Surgery	3	1	1	
No. 7. Report of the commandant of the marine corps, and detailed estimates from the paymaster and quartermaster of the corps	3	1	1	
No. 8. General estimate of office of the Secretary of the Navy, and the several bureaus of the department	3	1	1	

Title.	Part.	Vol.	Doc.	Page.
Navy, list of papers—Continued.				
No. 9. General estimate for southwest executive building	3	1	1	680
No. 10. Summary statement of the estimates for the navy	3	1	1	681
No. 11. General estimate for the support of the navy	3	1	1	684
No. 12. General estimate for the support of the marine corps	3	1	1	685
No. 13. General estimate for special objects under the Navy Department	3	1	1	686
No. 14. Abstract of expenditures under the head of contingent expenses, as settled and allowed at the office of the Fourth Auditor of the Treasury, from July 1, 1852, to June 30, 1853, inclusive	3	1	1	688
No. 15. Statement of the appropriations for the Navy Department, viz: balances of appropriations on the 1st of July, 1852; appropriations for the fiscal year 1852–'3; repayments and transfers in same time; the amounts applicable to the service of the year 1852–'3; the amounts drawn by requisitions from the treasury in the same period; and the balances on the 30th of June, 1853, with such sums specially designated as have been carried to the surplus fund	3	1	1	692
Navy Register for the year 1854	....	8	64	
Neutrals and belligerents, rights accorded to and claimed by, in the war now pending between certain European Powers	....	12	103	
New Bedford harbor and Taunton river, survey of	....	5	30	
New Mexico, letter from the Secretary of the Interior, asking for an additional appropriation for Indian service	....	8	43	
New York, letter from the Secretary of the Treasury, relative to an appropriation for an assay office at	....	14	117	
"North Carolina," schooner, imprisonment of the captain and crew of	....	5	29	
North river and Scituate harbor, report of survey of	....	5	31	
O.				
Observatory, estimates for the naval	3	1	1	417
Ocean mail service, estimates for	....	11	93	
Ocean mail steamship service, estimates for	....	3	11	
Ocean mail steamers, adaptation of to war purposes	....	10	75	
Ohio river, near Marietta, letter from the Secretary of War relative to	....	14	114	
examination of	3	1	1	77
report of C. A. Fuller	3	1	1	86
Ordnance, report of H. K. Craig	3	1	1	263
Ordnance and hydrography, estimates for	3	1	1	417
Oregon and Washington Territories, letter from the Secretary of the Interior, with a report of Commissioner of Indian Affairs	....	8	55	
Oregon, Cayuse war, letter from the Secretary of the Treasury, relative to a further appropriation to pay expense of	....	8	45	
Indian hostilities in	2	1	1	37
military roads, instructions relative to	2	1	1	67
P.				
Pacific railroad route, surveys of	2	1	1	55
report of Col. S. H. Long	3	1	1	59
surveys of	....	8	46	
letter from Secretary of War, with surveys of	....	18	129	
Pacific railroad, central route, a report relative to Captain Gunnison's survey	....	5	18	
surveys	1	1	1	18
Passengers arriving *in the United States from foreign countries*, by sea	....	10	78	

Title.	Part.	Vol.	Doc.	Page.
Patents, report of Charles Mason, Commissioner of, (Manufactures)..	1	7	39	
table of contents to Part 1.....	1	7	39	5
Commissioner of, (Agriculture)....	2	7	89	
index to Part 2.....	2	7	39	435
Paymaster General, report of B. F. Larned.....	2	1	1	137
detailed estimates for the marine corps.....	3	1	1	664
Penitentiary and capitol of Minnesota, letter from Secretary of War relative to finishing.....	....	8	48	
Penitentiary, District of Columbia, annual report of the board of inspectors of the	....	10	72	
Pensions, report of L. P. Waldo, Commissioner of.....	1	1	1	485
Pension Office, frauds upon the	....	12	105	
Pension Bureau, frauds upon the.....	1	1	1	11
Pensioners, letter from the Secretary of the Interior, with a list of rejected applicants	....	5	27	
Peru, our relations with.....	1	1	1	7
Pierce, Franklin, President of the United States, annual message....	1	1	1	3
Point Isabel, Texas, estimates for a breakwater at	....	10	81	
Porto Rico and Cuba.....	1	1	1	4
Posmaster General, letter relative to post-office blanks.....	....	10	83	
annual report	3	1	1	699
estimates for ocean steamship mail service.....	....	3	11	
letter, with a report respecting mail service on No. 5502, from Montgomery to Mobile.....	....	11	89	
letter, with estimates for the mail service for the year commencing July 1, 1854.....	....	11	92	
letter, with an estimate for the ocean mail service.	....	11	93	
letter, with receipts and disbursements of Post Office Department.....	....	12	101	
letter, with offers for carrying the mails.....	....	17	125	
a report of fines and deductions	....	5	22	
Post office blanks, letter from Postmaster General relative to.....	....	10	832	
Post Office Department.....	1	1	1	10
receipts and disbursements.....	....	12	101	
Practice-ship, propelled in part by steam, recommended by board of examiners at Naval Academy	3	1	1	402
report of the commandant of midshipmen, late cruise of the.....	3	1	1	406
Private armed vessels, message of the President, transmitting papers relative to instructions referred to by President Monroe, on the subject of the issue of commissions to.....	....	13	111	
Provisions and clothing, estimate for.....	3	1	1	636
Public buildings and grounds, letter from the Commissioner, transmitting estimates of deficiencies.....	....	5	25	
Public lands, surveyed and brought into market.....	1	1	1	11
letter from Secretary of Interior, with a statement showing the number of acres that have been donated.	....	8	52	
Q.				
Quartermaster General, report of General Thomas S. Jesup.....	2	1	1	129
Quartermaster of the marine corps, detailed estimates, by the.....	3	1	1	664
R.				
Railroad routes to the Pacific ocean, surveys of.....	....	8	46	
letter from the Secretary of War relative to surveys of.....	....	19	129	
Railroad to the Pacific, surveys of routes.....	1	1	1	16
report of Colonel S. H. Long.....	3	1	1	59
Receipts and disbursements of the Post Office Department.....	....	12	101	
ipts and expenditures of the government for the year ending ne 30, 1853.....	....	14	112	

Title.	Part.	Vol.	Doc.	Page.
Red river, letter from the Secretary of War, with reports relative to the navigation of	....	5	24	
Repair, Construction, and Equipment, estimates for	3	1	1	545
Resignations, deaths, and dismissions in the navy	3	1	1	322
Revenue, letter from the Secretary of the Treasury relative to the manner of keeping the	....	8	42	
Revenue cutters, letter from the Secretary of the Treasury recommending appropriation for	....	5	13	
Richmond, Rev. Jas. Cook, and the United States consul for Trieste, message from the President, with copies of correspondence relative to	....	12	100	
List of documents with the same	....	12	100	2
River Illinois, report relative to	3	1	1	84
River Mississippi, instructions relative to the survey of the Upper	3	1	1	75
River Ohio, report of C. A. Fuller relative to	3	1	1	86
River San Diego, report of G. H. Derby	3	1	1	109
report of G. H. Derby	3	1	1	112
report of G. H. Derby	3	1	1	114
River and harbor improvements, orders relative to	2	1	1	45
letter from the Secretary of War relative to	3	1	1	19
general order from the Secretary of War relative to	3	1	1	21
Rivers and harbors on Lake Michigan, contracts for the improvement of	....	10	71	
Rivers, western, report of Colonel S. H. Long relative to the	3	1	1	63
Rivers, western, and lake harbors, report of engineers	3	1	1	195
Roads, military, in Oregon, instructions relative to	2	1	1	67
Rock River and Des Moines rapids, in the Mississippi river	....	12	104	
Rogue River war, estimates of expense of the	....	12	98	
S.				
Salaries of American ministers, chargés, &c., at foreign courts	....	10	67	
Salt, statistics, letter from Secretary of the Treasury	....	5	36	
San Juan de Nicaragua, reports relative to the destruction of	....	16	126	
Savannah river, Ga., Georgetown harbor, S. C., and Brazos river, Texas, report of surveys of	....	16	124	
Scammon, E. P., engineer, report of	3	1	1	26
Scituate harbor and North river, report of the survey of	....	5	31	
Scott, Winfield, Commanding General, report of	2	1	1	93
Seamen, abstract returns of American	....	3	10	
Secretary of State, letter, with abstract returns of American seamen	....	3	10	
letter, with annual statement of the number of passengers arriving in the United States by sea from foreign countries	....	10	78	
report relative to our commercial intercourse with foreign nations	....	8	47	
communication relative to the steamer "Crescent City" at Havana	....	11	90	
Silver and gold foreign coin, report relative to the value of	....	10	68	
Smithsonian Institution	1	1	1	14
Snag-boats, instructions to captains of	3	1	1	80
Sound dues upon our commerce to the Baltic, message from the President transmitting correspondence relative to	....	13	108	
South Carolina, report of survey of Georgetown harbor, in	....	16	124	
Spain, our relations with	1	1	1	14
Spanish violations of the rights of American citizens	....	11	86	
List of documents accompanying the same	....	11	86	2
State banks, report upon the condition of the	....	12	102	
State Department, contingent expenses of, and foreign intercourse	....	3	7	
list of clerks and other employés in	....	5	23	

Title.	Part.	Vol.	Doc.	Pa
State Department, correspondence between late Commissioner to China and the	....	16	123	
message from the President, transmitting copies of correspondence between the American minister at Constantinople and the	....	13	110	
correspondence between the American chargé at Austria and the	....	8	41	
State, Secretary of, report of William L. Marcy	1	1	1	
letter to Mr. Hulsemann	1	1	1	
State and Territory, area of each	....	10	80	
St. Clair flats, estimates for	3	1	1	
Steamboat "Martha Washington," burning of	....	11	87	
Steamers, ocean mail, adapted to war purposes	....	10	75	
Steam navy of the United States	....	8	65	
Surgery and Medicine, estimates of Bureau of	3	1	1	
Surgeon General, report of Thomas Lawson	2	1	1	
Surveying service in California, estimates for, by Secretary of the Interior	....	11	96	
Surveys of Pacific railroad by Captain Gunnison	....	5	18	
Surveys of Pacific railroad routes	1	1	1	
T.				
Tariff, circular, and replies thereto, relative to the	....	10	74	
Taunton river and New Bedford harbor, survey of	....	5	30	
Tennessee river, report relative to the removal of obstructions at Colbert's shoals, in the	....	8	51	
Territory and State, area of each	....	10	80	
Texas, report of survey of Brazos river	....	16	124	
estimates for a breakwater at Point Isabel	....	10	81	
Timber lands, depredations upon	....	14	115	
Topographical Engineer, report of J. J. Abert	3	1	1	
report of J. N. Macomb	3	1	1	
Topographical, instructions relative to river and harbor improvements	3	1	1	
general order relative to river and harbor improvements	3	1	1	
Topographical Engineer, E. P. Scammon, report of	3	1	1	
S. H. Long, report of	3	1	1	
G. K. Warren, report of	3	1	1	
S. H. Long, (marine hospitals,) report of	3	1	1	
S. H. Long, Pacific railroad report	3	1	1	
S. H. Long, western rivers	3	1	1	
S. H. Long, instructions relative to survey of the Upper Mississippi river	3	1	1	
S. H. Long, survey of Ohio river	3	1	1	
S. H. Long, instructions to Lieut. Warren	3	1	1	
S. H. Long, instructions to captains of snag-boats	3	1	1	
S. H. Long, letter to C A. Fuller	3	1	1	
S. H. Long, letter relative to the improvement of Illinois river	3	1	1	
Topographical report of Charles A. Fuller, Ohio river	3	1	1	
Joshua Barney, U. S. agent	3	1	1	
Topographical Engineer, J. W. McClellan	3	1	1	
George H. Derby	3	1	1	1
George H. Derby, San Diego river	3	1	1	1
George H. Derby, San Diego river	3	1	1	1
George H. Derby, San Diego river	3	1	1	1
W. Turnbull	3	1	1	1
Topographical report of M. P. Hatch, U. S. agent	3	1	1	1
Topographical Engineer, Howard Stansbury	3	1	1	1
opographical report of J. A. Potter, U. S. agent	3	1	1	1
Geo. S. Patterson, U. S. agent	3	1	1	1

Title.	Part.	Vol.	Doc.	Page.
raphical Engineer, estimates for completion of the harbor of Huron	3	1	1	139
estimates for repairs at Vermillion	3	1	1	142
estimates for repairs of the harbor of Blackwater	3	1	1	143
A. Canfield, estimates for opening a channel through St. Clair flats	3	1	1	145
A. Canfield, report of	3	1	1	150
J. D. Webster, report of	3	1	1	153
raphical report of Samuel Hall, U. S. agent	3	1	1	159
John R. Bowes, U. S. agent	3	1	1	160
J. A. Carswell, U. S. agent	3	1	1	169
H. W. Gunnison, U. S. agent	3	1	1	171
William Gamble, U. S. agent	3	1	1	176
raphical, instructions relative to Milwaukie harbor, by J. J. Abert	3	1	1	178
letter from James Kearney, relative to Milwaukie harbor	3	1	1	118
letter from J. J. Abert, relative to Milwaukie harbor.	3	1	1	181
letter from J. J. Abert, relative to Milwaukie harbor.	3	1	1	181
aphical Engineers, James Kearney, W. G. Williams, and J. McClellan, report of	3	1	1	183
T. J. Cram, report of	3	1	1	188
abstract of proceedings of the Board of Engineers of lake harbors and western rivers, by James Kearney	3	1	1	195
estimates for lake harbors and western rivers, by James Kearney	3	1	1	219
estimates, reports, &c., on lake harbors and western rivers, by James Kearney	3	1	1	223 to 257
Joseph G., Chief Engineer, report of	2	1	1	157
er's accounts	....	3	4	
y Department, letter from the Secretary, with estimates for civil and diplomatic expenses of the government for the year ending June 30, 1855	....	2	2	
letter from the Secretary, on the finances	....	2	3	
expenditure of contingent fund of	....	5	20	
letter from the Comptroller, with list of balances	....	5	26	
letter from the Secretary, with a statement of receipts and expenditures of the marine hospital fund	....	5	28	
letter from the Secretary, with a statement of the condition of the Chickasaw trust fund and land sales	....	5	34	
letter from the Secretary, with salt statistics	....	5	36	
letter from the Secretary, with a list of clerks in his department	....	6	38	
letter from the Secretary, with information relative to the manner of keeping the revenue	....	8	42	
letter from the Secretary, relative to a further appropriation to pay expense of Cayuse war, 1847–'48, in Oregon	....	8	45	
letter from the Secretary, relative to finishing the capitol and penitentiary of Territory of Minnesota	....	8	48	
letter from the Secretary, with a memorial of the contractor on the San Francisco marine hospital	....	8	54	
letter from the Secretary, with a statement of the original cost of custom-houses	....	8	60	

Title.	Part.	Vol.	Doc.	Page.
Treasury Department, letter from the Secretary, with a statement of salaries of American ministers, chargés, &c., at foreign courts	....	10	67	
letter from the Secretary, with a report respecting the quality and value of foreign gold and silver coin	....	10	68	
letter from the Secretary, with papers relative to boarding station at the Southwest Pass of the Mississippi river	....	10	69	
letter from the Secretary, with copy of circular, and replies thereto, in reference to the tariff	....	10	74	
letter from the Secretary, with an estimate for a breakwater at Point Isabel, Texas	....	10	81	
letter from the Secretary, relative to the burning of the steamboat Martha Washington	....	11	87	
letter from the Secretary, with an additional estimate for the United States marine hospital at San Francisco, Cal	....	11	94	
letter from the Secretary, with a report upon the condition of the State banks	....	12	102	
letter from the Secretary, with a report of the Director of the Mint, relative to the condition of the dies of medals ordered by Congress, with a list of same	....	12	106	
letter from the Secretary, with an account of the receipts and expenditures of the government for the year ending June 30, 1853	....	14	112	
letter from the Secretary, relative to an appropriation to pay Gibbons & Kelly for extra work on light-houses in the Pacific	....	14	113	
letter from the Secretary, relative to an appropriation for rent of the assay office in New York	....	14	117	
letter from the Secretary, with estimates for the custom-house at San Francisco, Cal	....	14	118	
letter from the Secretary, asking an appropriation for an appraiser's store in San Francisco, Cal	....	14	119	
letter from the Secretary, relative to the compensation of the heads of bureaus	....	14	120	
Treasury expenditures under the head of contingent expenses, as settled at the office of the Fourth Auditor	3	1	1	68
Treasury, Secretary of, list of employés in coast survey	....	5	13	
recommending appraiser's store at San Francisco	....	5	15	
Treaties, estimates of appropriation for carrying into effect certain Indian	....	16	122	
Treaty with Mexico, message from the President, transmitting a copy of a	....	13	109	
Trieste, message from the President, with copies of correspondence relative to Rev. J. C. Richmond and the United States consul for	....	12	100	
List of documents accompanying the same	....	12	100	
Twelve Mile creek, report relative to survey of	....	8	62	
V.				
Vermillion harbor, estimates for repairs of	3	1	1	14
Vice President William R. King, death of	1	1	1	2
Volunteers under Captain J. C. Fremont, in California, letter from the Secretary of War relative to pay of	....	10	77	

Title.	Part.	Vol.	Doc.	Page.
W.				
Waldo, L. P., Commissioner of Pensions, report of	1	1	1	485
War Department, appropriations for the fiscal year ending June 30, 1853	....	3	5	
War, report of Jefferson Davis, Secretary of	2	1	1	3
list of documents accompanying the report of the Secretary of War, (as follows)	2	1	1	35
reports respecting Indian hostilities in Oregon	2	1	1	37
regulations and orders respecting river and harbor improvements	2	1	1	45
instructions for surveys of a railroad route to the Pacific	2	1	1	55
instructions respecting military roads in Oregon	2	1	1	67
report on the Capitol extension	2	1	1	69
report of Commanding General Winfield Scott	2	1	1	98
report of Quartermaster General Thos. S. Jesup	2	1	1	129
report of Paymaster General Benjamin F. Larned	2	1	1	137
report of Commissary General George Gibson	2	1	1	141
report of Surgeon General Thomas Lawson	2	1	1	143
report of the Chief Engineer, Joseph G. Totten	2	1	1	157
report of chief of Topographical Engineers, J. J. Abert	3	1	1	3
report of Colonel of Ordnance, H. K. Craig	3	1	1	263
letter from the Secretary, relative to river and harbor improvements	3	1	1	19
letter from the Secretary, with general order relative to river and harbor improvements	3	1	1	21
letter from the Secretary, relative to the navigation of Red river	....	5	24	
letter from the Secretary, with a report of survey of Taunton river and New Bedford harbor	....	5	30	
appropriation for the Cayuse war in Oregon	....	8	45	
letter from the Secretary, with a report of survey of "Scituate harbor and North river"	....	5	31	
letter from the Secretary, with reports of surveys of railroad routes to Pacific ocean	....	8	46	
letter from the Secretary, with a statement of contingent expenses of that department	....	8	49	
List of papers with the same	....	8	49	1
letter from the Secretary, with an abstract of returns of the militia	....	8	50	
letter from the Secretary, with a report in reference to the removal of obstructions at Colbert's shoals, in the Tennessee river	....	8	51	
letter from the Secretary, in reference to the survey of "Crow shoal," at Cape May	....	8	56	
letter from the Secretary, with a transcript of the official Army Register	....	8	59	
letter from the Secretary, with a list of clerks and others employed in that department	....	8	61	
letter from the Secretary, with a report of the survey of "Twelve Mile creek"	....	8	62	
letter from the Secretary, with a statement of contracts	....	8	63	
letter from the Secretary, with the Army Register for 1854	....	10	66	
letter from the Secretary, in reference to the pay of volunteers under Captain J. C. Fremont, in California	....	10	77	
letter from the Secretary, with information relative to fortifications at Fort Point and Alcatrazas island, in California	....	10	82	
letter from the Secretary, with a report of survey of road from Mendota to Big Sioux river	....	12	97	
letter from the Secretary, with an estimate of the expense of Rogue River war	....	12	98	
letter from the Secretary, with a report on the Des Moines and Rock River Rapids, in the Mississippi river	....	12	104	

Title.	Part.	Vol.	Doc.	Page.
War, letter from the Secretary, relative to the Ohio river, Marietta	....	14	114	
letter from the Secretary, with a report of surveys of Georgetown harbor, S. C., Savannah river, Ga., and Brazos river, Texas	....	16	124	
letter from the Secretary, with papers relative to applications for office of superintendent of national armories	....	16	128	
letter from the Secretary, with a report of surveys of Pacific railroad routes	....	18	129	
letter from the Secretary, with a statement of expenditures at the national armories	....	5	19	
letter from the Secretary, with a report relative to deepening the passes of the Mississippi river	....	5	16	
report of the Secretary relative to Mobile harbor	....	3	8	
letter from the Secretary, with a statement of the contingent expenses of the military establishment	....	5	17	
Washington and Georgetown, water for	1	1	1	13
Washington and Oregon Territories, letter from the Secretary of the Interior, with a report of Commissioner of Indian Affairs	....	8	55	
Water for Washington and Georgetown	1	1	1	13
Western rivers and lake harbors, report of engineers on	3	1	1	195
Wilson, John, Commissioner of General Land Office, report of	1	1	1	71
Schedule of documents accompanying the same, including annual reports of surveyors general	1	1	1	89
report of, relative to depredations upon timber lands	....	14	115	
Y.				
Yards and Docks, letter from the chief of, recommending a postponement of sale of navy-yard lands at Brooklyn	3	1	1	409
estimates for	3	1	1	435

33d CONGRESS, 1st Session. [HO. OF REPS.] Ex. Doc. No. 1.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES

TO THE

TWO HOUSES OF CONGRESS,

AT THE

COMMENCEMENT OF THE FIRST SESSION

OF

THE THIRTY-THIRD CONGRESS.

DECEMBER 6, 1853.—Read, committed to the Committee of the Whole on the state of the Union, and, together with the accompanying documents, ordered to be printed; and that 20,000 extra copies, with the accompanying documents, be printed.

PART III.

WASHINGTON:
ROBERT ARMSTRONG, PRINTER.
1853.

REPORT OF THE COLONEL OF TOPOGRAPHICAL ENGINEERS.

BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, December 2, 1853.

SIR: I have the honor to submit the customary annual report.

A resolution of the Senate of the 3d of March last decides "that the Secretary of War be requested to communicate to the Senate copies of all instructions and reports, with the accompanying plans and estimates, that have been issued from or been made to that department in executing the surveys and improvements of harbors and rivers, under the act approved August 30, 1852. These instructions and reports to include the directions distributing the duties between the two corps of engineers; establishing the two boards of internal improvement; assigning the officers of the two corps to the several works; establishing special commissions; calling for estimates; directing the final plan of operation, and the reports of local engineers, special commissions, the two boards of internal improvement, and of the chiefs of the two corps to the Secretary of War, upon which the final instructions are based; and, also, that copies of all such instructions issued during the year be transmitted to Congress with each annual report of the Secretary of War."

It is considered the better mode of meeting the requirements of this resolution to take up each item of the submitted annual estimate, and to add, in an appendix, the required information as referable to each item.

In conformity with the resolution, the regulations 1 and 2 are hereto annexed.

This estimate was carefully revised by the board of engineers when sent in last year, and has also been carefully revised this year. The board has been governed in each item by a strong desire to reduce the estimates of each item to the least amount admitting of judicious and economical expenditure.

For military and geographical surveys west of the Mississippi..... $25,000

This estimate is for the continuation of the surveys, which constitute the same kind of surveys and explorations as have been made west of the Mississippi by Nicollet, Frémont, Emory, Johnson, Cook, Abert, Simpson, Stansbury, and Sitgreaves, which have been so well received, and which have thrown so much light upon the unexplored regions of the west.

For continuing the surveys of the northern and northwestern lakes, including Lake Superior..... $50,000

The amount *of the estimate is the same* as that of last year, and is

not more than is considered highly desirable for the continuation of the works. The vast commerce of these lakes but beginning to develop itself, the amount of life and of property exposed to their navigation render that knowledge of them, which can be obtained only by actual and careful survey, matter of strong necessity.

Serious embarrassments have ensued from the small appropriations for this work, by which the department has not been enabled to meet extensively involved national interests.

Moreover, it is frequently desirable that distinct harbors should be surveyed before the general survey reaches them, particularly on Lake Superior, for which this appropriation can be applied under approbation of the War Department.

Since the last report, a base line, with suitable apparatus, and with proper scientific considerations, has been measured on the main land south of the straits of Mackinac, which, as soon as the final computations connected with it are prepared, will be made the subject of a special report.

The following is a summary of the work done during the last season:

1. Survey of the obstructions to the navigation of the St. Mary's river—entrance to Lake Superior.

2. Survey of the coast line and adjacent hydrography of the western portion of the south shore of the straits of Mackinac, as far as the limits of the shore ground about Wangoshance light.

3. Deep water-soundings; completion of the main triangulation of the straits.

4. Observations for latitude and azimuth.

The survey of the straits of Mackinac is complete, with the exception of some deep-water soundings in the western section. These would have been made had it not been for the necessity of detaching a party to the survey of the St. Mary's river.

It embraces an area of about 3,000 square miles, as it includes the approaches to the straits from Lakes Huron and Michigan. Within its limits all the shores (main land and island) have been traced out, together with the minute hydrography from the shore lines to the depth of five and ten fathoms, as well as that of *twelve* shoals, which have been completely examined from their crests, in every direction, to deep water—the shoals being accurately determined in position by the triangulation. Deep-water soundings fill up the remainder of the work.

This survey has been executed in a manner highly creditable to the officers engaged in it and to the corps; measures will be taken to have the results published with all despatch.

For further details, reference is made to Appendix A, A 1, A 2, &c.

Roads in Minnesota.

Road from Point Douglass to St. Louis river of Lake Superior..... $20,000

The whole extent of road now completed and in good travelling order *is that comprised* between Stillwater and a point twelve miles beyond *the falls of St. Croix*, a distance of forty-three miles. The portion at

nder contract, and to be finished during the present year, is
prehended between the 21st and and 25th mile stations. Pro-
ive also been opened to-day (17th September) for the con-
of a bridge over Sunrise river, which is also to be finished
inter.
e is made to Appendix B.

rom Point Douglass to Fort Ripley, (Gaines) $10,000
y-eight miles have been completed by contract, and a bridge
a river, which has been contracted for, will be completed this

nce is made to Appendix B.

)m the mouth of Swan river to the Winnebago
', at Long Prairie..... $5,000

ontract for the section included between the 3d and 7th mile
and the 25th mile station, and the Mississippi river, inclusive
idge and causeway over Turtle creek; the bridge over Bear
:ek, and the bridge over Swan creek, have been completed.
nce is made to Appendix B.

m Wabashaw to Mendota $15,000
)llowing contracts are in process of completion, and will be
during the present fall:
)ntract for the bridge over the slough at Wabashaw; the bridge
ith's creek, with its approaches, and the portion of the road
Reed's landing and stake 407, a distance of nearly three
nd the contract for the grading of the bluff back of Mendota.
nce is made to Appendix B.

was a survey ordered of a military road between the mouth
ig Sioux on the Missouri, and Mendota on the Mississippi.
vey has been completed. The officer, Captain Reno, is now
in making up report, plan, and estimate, which will soon be
any call that may be made.

Rivers.

inuing the improvement of the navigation of the Mis-
i below the rapids $84,000
inuing the improvement of the Des Moines rapids, in
ssissippi river..... 18,000
inuing the improvement of the Rock River rapids, in
ssissippi river..... 18,000
inuing the improvement of the harbor of Dubuque, in
ssissippi river..... 15,000
rticulars, reference is made to Appendix C, and the reasons of
l in Appendix K.

tinuing the improvement of the navigation of the
; river..... $16,000
hange in the agency for the improvement of this river has

prevented the adoption of measures for a preliminary survey of it till a very recent date. The new officers are probably at this time engaged in the necessary preparation for the survey.

For further particulars, reference is made to Appendix C.

For continuing the improvement of the navigation of the Missouri river..... $40,000

Two of the twin snag-boats lately constructed for use on the western rivers were despatched to the Missouri at the end of July last.

For further particulars, reference is made to Appendix C.

For continuing the improvement of the navigation of the Ohio, including the repair of the dam at Cumberland island..... $90,000

This season's work embraces the construction of a steam dredge-boat, the equipment and outfit of a large twin snag-boat, the repairs of the Cumberland dam, the dredging of a channel between the Kentucky shore and Cumberland island, and the removal of snags and other obstructions above the falls.

These operations have been prosecuted with due diligence, except as relates to the removal of snags, which has been unavoidably suspended by reason of the low stage of the Ohio.

For further particulars, reference is made to Appendix C, and the reports hereto annexed.

For continuing the improvement of the navigation of the Tennessee river..... $35,000

An examination has been made of the various shoals, and other obstructions, from Knoxville to Kelly's ferry.

At Knoxville shoals two dams are being constructed.

At Lyons' shoals the dam constructed by the State has been repaired.

At Williams' shoals a dam has been built.

At Little River shoals an old dam has been removed, and a new one is being constructed.

At Chota shoals, materials for the necessary repairs, &c., have been contracted for, and the work was to be commenced in the early part of September.

At Booth's shoals the necessary work would be commenced in September, and completed this season.

At Caney Creek shoals, the materials for constructing the necessary dams were nearly ready, and should the stage of low water continue favorable long enough, they will be completed before the close of the working season.

For further particulars, reference is made to Appendix D.

For continuing the improvement of the navigation of the Arkansas river..... $40,000

Two of the twin snag-boats were despatched to the Arkansas river, but one of them grounded on a bar at French island, 150 miles below the falls of the Ohio, and the other grounded on a bar in the Arkansas,

ɔut twenty-five miles above the mouth of that river. These boats ; still waiting for a rise of the water sufficient to release them. For further particulars, reference is made to Appendix C.

ɔr the construction of two light-draught snag-boats, two machine-boats, one dredge-boat, and four discharging-scows, for the Mississippi, Missouri, Illinois, Ohio, and Arkansas rivers, and for repair of snag-boats, dredge-boats, discharging-scows, and machinery used on the same rivers... $70,000

The construction of five twin snag-boats (one being of light draught) ıs been prosecuted with due diligence, but has been attended with ɔme embarrassment, from the advances in the prices of materials, .bor, and subsistence, since the works of construction commenced. These changes in the prices not only contributed to delay the work f construction, but to render it far more expensive than it would therwise have been.

For further particulars, reference is made to Appendix C.

'or continuing the construction of a levee across the mouth of the river San Diego, California, and for other works to turn it into False bay..... $20,000

A survey of the locality was made during the season, and a report ;ubmitted. The matter was referred to the board of engineers, and a ɔlan adopted by them transmitted to the officer in charge for his ;uidance.

For further particulars, reference is made to Appendix E.

For the preservation of public property, and contingencies of western river improvements; and for commutation of transportation of baggage, and of quarters and fuel of officers in cases no longer provided for by the Quartermaster's department; and for allowances to meet extra expenses, under the special direction of the Secretary of War..... $10,000

This item is necessary, and its necessity is manifested by daily experience.

The report of the board of engineers on lake harbors and western rivers, hereto attached as Appendix K, is referred to.

Harbors.

For continuing the improvement of the harbor of Burlington, Vermont..... $18,000

The work at this place is a breakwater 1,069 feet in length, and 35 feet broad, of crib-work ballasted with stone. It is placed immediately in front of the wharves of the town in 30 feet water, and affords very good protection.

The operations of this year consist in adding 100 feet to the north end; which was done by sinking cribs of the proper dimensions.

At the date of the annual report, September 1st, the timber-work of this extension *was three feet above water*, and the work upon it will *be completed during the present working season.*

It is recommended that the north end be further extended two hundred feet, to afford a shelter from northwest gales, for which the officer in charge estimates $18,000 will be required.

More details of this work will be found in the report of Brevet Col. Turnbull, attached to this report as Appendix F.

For keeping in operation the dredge-boat for Lake Champlain $7,500

Under the appropriation of 1852, a contract was made for a dredge-boat on this lake. The item now submitted is to enable the department to use and work the boat.

For continuing the improvement of the harbor of Oswego, New York..... $21,000

This season the operations have been confined to rebuilding the west pier, from the point at which it was breached in the gale of November, 1852, to the pier-head, and very good progress has been made.

At the date of the annual report, 590 feet in length of the old work had been renewed; of which, 120 feet had been entirely rebuilt, and wanted only planking; 200 feet wanted but one course of timber to complete it, and the remaining 270 was from one to four feet above the surface of the water, the whole filled with stone.

The character of the work is of the best description, and executed with great care and judgment. It will be completed this season.

For further particulars, reference is made to Appendix F.

For continuing the improvement of the harbor of Sodus bay, Cayuga county, New York..... $14,500

The entrance of the bay was so materially changed since the survey was made in 1845, that it would have been improper to commence a work for its improvement on the plan originally proposed.

A survey being indispensable, it was ordered and made, and the plan for its improvement left for the action of the board of engineers.

For continuing the improvement of the harbor at Sodus bay, Wayne county, New York..... $10,000

The works at this place were found to be in a very dilapidated condition, and the appropriation being so inadequate for the repairs required, that it was difficult to decide upon the most advantageous mode of expending it.

Considering that it was most important to preserve the entrance into the harbor, there being abundance of room for shelter inside, the season's operations were confined to rebuilding the breach in the east channel pier, which has been completed, and the new work carried past the angle a short distance, to secure it better. The top timbers of the channel pier were removed for some distance north from the breach, and planked to where it was left unfinished in 1845.

The whole of the east harbor pier requires to be rebuilt, as well as

the west harbor pier, as far inland as it is covered by the accumulated breach.

For further particulars, reference is made to Appendix F.

For continuing the improvement of Charlotte harbor, at the mouth of Genesee river, New York..... $24,000

These piers were found very nearly demolished. The west pier, on which the beacon-light stands, being the most important, the season's work was confined to that. All the breaches have been filled with new crib-work, and a large portion of the remaining old work has been taken up and rebuilt. The whole pier will probably be finished this fall. The east pier should be entirely rebuilt, for which the officer in charge submits an estimate of $21,500.

For further particulars, see Appendix F.

For continuing the improvement of the harbor at the mouth of Oak Orchard creek, Lake Ontario, New York..... $14,500

The piers at this place, although much decayed, remained entire except in two small spaces. This season the west pier has been lengthened 290 feet, the small breaches in the old work rebuilt, and the new work planked.

The east pier should be rebuilt, and both piers extended into the lake to 18 feet water, for which an estimate of $77.856 87 is submitted by the officer in charge.

For further particulars, reference is made to Appendix F.

For keeping in operation the steam-dredge on Lake Ontario.. $7,500

This dredge-boat having been authorized by a previous law, and a contract having been made for its construction, the appropriation now asked for is to make use of it when finished.

For continuing the improvement of the harbor of Buffalo, New York..... $33,000

The work at this place was found in nearly the same condition in which it was left in 1846. Operations were resumed in the month of May last, and up to the date of the annual report (September 1st) the face wall had been raised 4.8 feet over a length of 368 feet, 230 feet of it coped one foot thick and four feet wide, 320 feet of slope wall filled in 10 feet wide, and 386 feet of wall flagged seven feet wide.

An estimate is submitted by the officer in charge for rebuilding 350 feet of sea-wall, for raising 450 feet of old wall three feet higher and coping, and for taking up and relaying tow-path; in all, $31,686 48.

The location of the breakwater built by the State of New York, north of the piers, is condemned as injudiciously placed, and as having already been the cause of disasters, wrecks, and loss of life.

For further particulars, reference is made to Appendix F.

For continuing the improvement of the harbor of Dunkirk, New York..... $30,000

The works at this place have been entirely demolished, and nothing

has been done this season towards rebuilding, the plan being before the board of engineers.

A small beacon has been erected near the entrance, to mark the position of a sunken breakwater.

For further particulars, reference is made to Appendix F.

For continuing the improvement of the harbor of Erie, Pennsylvania..... $25,500

This fine harbor is very much exposed, from the want of protection at the west end. The travelling beach from the west is gradually filling up the harbor.

This season an experiment, on a small scale, was tried, to intercept the moving sand, by making wattlings of brush normal to the shore, and extending a short distance into the lake; but as yet little effect is produced, owing perhaps to much calm weather.

Some more effectual method will have to be resorted to. The north channel pier at the east end of the harbor has been repaired to the water's edge; 700 feet in length have been repaired.

The officer in charge submits an estimate for the extension of the piers, for repairing the present south channel pier, and for the protection of the west end of the harbor, amounting to $50,259.

For continuing the improvement of the harbor of Conneaut, Ohio..... $11,500

It was found necessary to rebuild the outer angle of the west pier from the surface of the pier, which has been done in a thorough manner.

A portion of the east pier, repaired under the last appropriation, being defective, it was deemed advisable to rebuild it for the distance of 275 feet. This will be entirely completed this fall. This pier has also been extended inland 125 feet. A careful survey of the harbor has also been made this season.

For further particulars, reference is made to Appendix G.

For continuing the improvement of the harbor of Ashtabula, Ohio.

This work at the beginning of the season was in a very dilapidated condition, and during the summer the outer angle of the east pier was swept away by a gale; a breach in the east pier extended for 250 feet, and the outer end of the west pier was also gone for six to nine feet below the surface.

The work of repairs has been vigorously pushed during the season. On September 20th the foundation cribs throughout the whole damaged part of the east pier were in place, and the superstructure completed (except the planking) for the distance of 300 feet. This pier will be entirely completed this fall, and the outer end of the west pier secured.

Reference is made to Appendix G.

For continuing the improvement of the harbor of Fairfort, Grand river, Ohio..... $13,000

At this place the timbers of the old cribs were found to be so much

torn up and displaced, that it became necessary to remove the stone and old work for several feet below the surface of the water, to obtain good foundation for new work. In some places (for a distance of 250 feet) no foundation could be obtained without removing the old work entirely.

Up to the date of the report, (September 20th,) 300 feet of the worst portion of the work had been rebuilt, the outer angle of the west pier thoroughly repaired, and the outer end refilled with stone and secured.

For further particulars, reference is made to Appendix G.

For continuing the improvement of the harbor of Cleveland, Ohio..... $10,000

At the commencement of the season, railroad companies and private individuals were found in possession of nearly the whole of the east pier, and having erected buildings upon it, and leased parts of it to others, had set up a claim to it. It became necessary to suspend all work upon the harbor until the question as to the right of the government should be decided. This has eventually been settled, by the parties interested relinquishing their claims and acknowledging the right of the government. But this settlement was not made until the season was too far advanced to commence operations.

A survey has been made of the harbor and adjacent waters, and contracts will be made for the delivery of materials during the winter, so as to be ready as early in the spring as the season will permit.

For continuing the improvement of the harbor of Black river, Ohio..... $10,000

On the west pier 210 feet of new work has been constructed upon the foundation of the old work, in a depth of water averaging seven feet, and a considerable amount of stone and timber is on hand for operations in the spring. Some 400 feet of pier will require to be rebuilt from the surface of the water.

In the east pier two breaches have been made by the sea, sixty and ninety feet in length, and to a depth of three and six feet below the water, which will have to be repaired; 872 feet will have to be rebuilt above water, and a pier-head will be necessary for the security of the pier.

For continuing the improvement of the harbor of Huron, Ohio $13,500

The work at this place was commenced in April, and has been continued during the season.

Five hundred and forty feet of the east pier has been rebuilt, twelve feet wide, from an average depth of six and a half feet below the surface of the lake.

At the date of the annual report the agent was engaged in building up above water, and as much of the work as possible will be raised four and four and a half feet above water before the winter sets in.

For continuing the improvement of the harbor of Sandusky, Ohio..... $28,500

The season's work has consisted in securing a distance of 2,600 feet on Peninsula point with crib-work. This has not only checked the current, but the sand has already accumulated on both sides of the cribs, forming a beach which will aid materially in resisting the violence of the storms.

For further particulars, reference is made to Appendix G.

For continuing the improvement of the harbor (Monroe) at the mouth of River Raisin, Michigan..... $10,000

The local agent at this place reports that the materials necessary for the repair of the piers have been procured, and that the work is progressing well, in accordance with the advice given him by Major Bache, of the board of engineers.

For keeping in operation the steam dredge on Lake Erie $7,500

A steam dredge having been authorized for this lake, a contract for its construction having been made, this item is to keep the boat in use.

For continuing the improvement of the St. Clair flats, Lake St. Clair..... $45,000

The importance of this improvement cannot be over-estimated. The loss of time from lying aground, and the expenses of towing and lightering occasioned by these obstructions, are very great and increasing, as, whatever internal improvement may be made in the northwest, the heavy commerce must pass this way.

It is proposed to deepen, by dredging, the entrance of the south channel of the St. Clair river sufficiently to allow the passage of the largest vessels navigating the lakes.

A survey of the locality was made last fall by Capt. Macomb, and the result being compared with a survey made ten years ago by the same officer, shows that very little change has taken place in the depth of water within that period.

A contract was entered into for the construction of a dredge-boat to be used at this locality, and on the 1st September it was so far finished as to be put in operation for the purpose of testing the machinery, &c. The result was favorable, and the machinery found capable of doing all that was contracted for.

After paying the cost of the dredge, there will be a balance of only about $3,000 available for the work.

For further particulars, reference is made to Appendix A.

For continuing the improvement of the harbor of Clinton river, Michigan $5,000

An examination and estimate have been made. It is proposed to deepen the entrance into the river to nine feet, for the accomplishment of which an additional appropriation of $5,000 is deemed necessary.

See Appendix H.

For continuing the improvement of the harbor (Grand Haven) at the mouth of Grand river, Michigan..... $20,000

The plan proposed for the protection of this harbor is to secure the sand bluffs on the southern bank of the river from the action of the current, and to extend two piers into the lake.

The whole cost of the improvement the agent estimates to be $162,126, for which $2,000 only has been appropriated—a sum inadequate to purchase the machinery necessary for the work; under these circumstances but little work has been done.

For further particulars, reference is made to Appendix I.

For continuing the improvement of the harbor of Black lake, Michigan $20,500

The limited amount of the present appropriation made it difficult to adopt a judicious mode of expending it; as most advisable, it was applied to foundations for the southern or windward pier. The necessary buildings for the workmen and the preparation of machinery consumed some time, but still 200 feet of piling has been driven and decked, and it is expected that by the close of the season a sufficient length will be constructed to admit the reception of the stone. The work of the season may be considered as auxiliary, although it is at the same time a portion of the general plan.

The plan embraces two parallel piers, for the completion of which an estimate of $97,225 78, in addition to the present appropriation, is submitted by the agent in charge.

For further particulars, reference is made to Appendix I.

For continuing the improvement of the harbor of St. Joseph, Michigan $18,000

During the present season the operations have been directed exclusively to repairing the two piers, the completion of which will nearly exhaust the present appropriation.

After the repairs are completed, a further extension of the south pier will be required, to control the current between the piers and insure an easier access for vessels.

An estimate of $36,523 52 is submitted by the agent for an extension of 600 feet.

For further particulars, reference is made to Appendix I.

For continuing the improvement of the harbor of New Buffalo, Michigan $16,000

The plan proposed is to cut through the sand spit (lying between the mouth of Galien river and the lake) a channel 300 feet wide, and to extend, in connexion with it, two piers into the lake, 1,600 and 700 feet in length.

The operations at this work for the last season have been confined to receiving materials under the contract.

The expenditures, up to the 20th September, amounted to $5,186, leaving but $2,814 to be applied to the construction of the work.

The estimate for completing the work is $104,267 49

For further particulars, *reference is made to* Appendix I.

For continuing the improvement of the harbor of Michigan city, Indiana..... $19,000

The breakwater will be located in 25-feet water, to consist of cribs 30 feet long and 30 feet wide, and 12 feet above the surface of the lake. It is to be 2,000 feet long, the line of direction being N. 61° E.

The active operations commenced in the latter part of July, and have been confined principally to procuring machinery and materials.

During the month of August, 200 feet of bridge-pier was constructed, and timber sufficient for two cribs of the breakwater contracted for. One of these cribs will be sunk during the month of October.

In the law of August 30, 1852, the appropriation is for the old work, "or the laying down of a floating breakwater and safety anchorage, as the Secretary of War may determine."

There being an option in this case, the matter was referred to the board of engineers on lake harbors and western rivers.

The report of that board is hereto annexed, as Appendix K, which being approved by the Secretary of War, "the floating breakwater and safety-anchorage plan" was not adopted.

The agent estimates the cost of each crib at $4,742 59, being an average of $1 58 per foot; and the whole amount required for 2,000 feet of breakwater, exclusive of the present appropriation of $20,000, is..... $301,000

For further particulars, reference is made to Appendix I.

For continuing the improvement of the harbor of Chicago, Illinois $24,000

Nothing has been done in prosecution of this improvement during the year, the plan for improvement being still before the board of engineers.

For further particulars, reference is made to Appendix I, and to the report of the board, Appendix K.

For continuing the improvement of the harbor of Waukegan, Illinois $16,000

It was decided by the War Department, on the 16th of August, to reduce the length of the breakwater, proposed by the board of engineers, so as to bring the expenditures within the original estimate presented to Congress. Since then there has been little time to advance the work.

Reference is made to Appendix I.

For continuing the improvement of the harbor of Kenosha, Wisconsin $15,500

The season's operations have been confined to repairing the existing piers, and dredging the channel between them.

The action of the waves during storms, this summer, worked out stones from the ends of the piers, which may endanger them during the winter. At the date of the last report the agent was engaged in

utting cribs at the ends of each, and protecting them by piles driven losely across the ends.

Reference is made to Appendix I.

For continuing the improvement of the harbor of Racine, Wisconsin $11,000

The work done during the season has consisted of repairs of the existing pier, and dredging the channel.

Reference is made to Appendix I.

For continuing the improvement of the harbor of Milwaukie, Wisconsin $17,500

Nothing has been done at this work beyond the depositing by the contractors of a quantity of stone upon the ground. It awaits the adoption of a plan.

In reference to the appropriation for Milwaukie, it is in the following words: "To be expended at the point on the Milwaukie river known as the North cut, surveyed by Lieutenant Center."

The estimate was for the continuation of the old work, but it could not be so expended under the law of 1852; and, considering this question as now settled by the law of 1852, the estimate now submitted is in further prosecution of that law.

The whole matter will be found fully explained in Appendix L.

For continuing the improvement of the harbor of Sheboygan, Wisconsin $11,000

Up to the 1st September no work had been done, and only a small portion of materials had been received.

Reference is made to Appendix I.

For continuing the improvement of the harbor of Manitowoc, Wisconsin..... $12,500

No work has been executed at this harbor. A small quantity of stone and a few sticks of timber have been gotten upon the ground—the contractors having failed, as in other instances, to fulfil their contract.

Reference is made to Appendix I.

For keeping in operation the dredge-boat on Lake Michigan $7,500

This is a boat authorized by the law of 1852, and contracted for. The estimate is to enable the department to use the boat.

For repairs and preservation of public property, and contingencies of lake harbors; and for commutation of transportation of baggage, and of quarters and fuel of officers in cases no longer provided for by the Quartermaster's department; and for allowances to meet extra expenses, under the special direction of the Secretary of War.... $20,000

The necessity of this item is manifested by the experience of every day.

For printing and distributing charts of the lake surveys..... $1,500

The duty for which this small amount is required is to make public the results of the lake surveys, and to distribute them so that the navigators of the lakes shall receive, as early as practicable, the benefits of the work.

The entire commerce of the lakes is deeply interested in this work, as well as in the surveys; and the publications which have been made have been received with much favor, but have not yet extended beyond—

1. A chart of Lake Erie.
2. A chart of the dangers to navigation at the western end of Lake Erie.
3. A chart of the harbors of refuge near the Bass islands, Lake Erie.

The navigators of the lakes speak highly of the advantages they have derived from these charts. The appropriation now asked for will, in addition to the small balance on hand, enable the bureau to extend these publications, so as to give charts of the straits of Mackinac, of the head of Green bay, of parts of Lake Huron, and of St. Mary's river, which connects Lake Huron with Lake Superior.

For the repairs of instruments of the corps of topographical engineers..... $5,000

Instruments are daily returned to the bureau out of order and requiring repairs. There is no fund out of which the required repairs can be made, and in consequence expenses for new instruments have to be incurred which could be avoided. Also, serious delays occur in the equipping of a party; new instruments are not always to be procured, and those in the depôt of the bureau requiring repairs, delay to make these repairs is unavoidable.

Both economy and expedition are, therefore, involved in the granting of this item.

The demands for the officers of the corps, for various services, call off many of its officers, and have rendered the organization of 1838 too small to meet present necessary wants; on these accounts an increase of the corps is respectfully recommended.

These demands consist—

1. In the duties required of it by the War Department.
2. In the duties required of it by the Treasury Department.
3. In the duties required of it by the Department of the Interior.
4. In the duties required of it by the several military commands.
5. In the duties naturally following from the increase and extension of our territory.

On these accounts an increase of the corps is respectfully recommended.

This increase will require, to what is now authorized by law, of not less than four captains, of ten first and of ten second lieutenants, by regular promotion of the officers of the corps, and by appointments to lowest grade of graduates from the Military Academy; also, that there be added to said corps, not exceeding one for each captain, brevet second

ınts, graduates from the Military Academy, at a ratio not exceed-
for each year.
n the corps was enlarged, in 1838, it was done in consequence
port from the Secretary of War, Hon. Mr. Poinsett, who gave
›wing reasons for his recommendation, viz:
ɜ duties of this corps require the combined knowledge of the mil-
ıd the civil engineers. Their military duties consist in surveys
defence of frontier, inland and Atlantic, and of positions for for-
ns; reconnoissances of the country through which an army has
, or in which it has to operate; the examination of all routes of
nication by land or by water, both for supplies and for military
ents; the construction of military bridges; the position and erec-
field-works; the defences of encampments, fords, ferries, and
. For these purposes topographical engineers should always
any armies in the field, and without their aid the organization
ff is defective and incomplete. Their civil employment, in the
of the coast, rivers, harbors, bays, and water-courses, in order
being improved for commercial and other purposes, and in
tending the various works for these improvements; in surveys
s and canals, under the law of 30th April, 1824, and in con-
all civil constructions connected with the commerce of the
, and such internal communications as Congress may direct."
e reasons still exist with great force, in addition to demands for
of the corps for the services of other departments, and from the
ɜ and extension of our territories.
he mere military duties of several commands, it can be said that
now wanting at least—
he military command including Texas, one captain and three
ınts.
he military command including New Mexico and Utah, one cap-
l four lieutenants.
he military command including Oregon, one captain and three
nts.
he military command including California, one captain and four
nts.
present small number of the corps, in addition to its inability to
government wants, forces an extreme and unremitting labor
› officers, and the employ, at high rates, of various civil agencies
il engineers.
estimate of this report will be found attached to the report as
lix K, together with the reasons of the board for each item.
following exhibition in detail, in reference to each officer of the
will furnish full information on that point:
ıel Abert, chief of the corps, in charge of the bureau.
enant Colonel James Kearney, on the Light-house Board, and
Board of Engineers for lake harbors and western rivers.
r S. H. Long, survey of the delta of the Mississippi, and mem-
Board of Engineers for lake harbors and western rivers.
r H. Bache, member of Board of Engineers for lake harbors
stern rivers.
- *J. D. Graham has completed the* restoration of the maps of

the northeast boundary; has delivered the same to the State Department; is now engaged upon the report and statements to accompany said maps.

Major W. Turnbull, superintending the harbor works on Lake Champlain, survey of Ogdensburgh, harbor works on Lake Ontario, harbor works on Lake Erie as far west as Erie, and when said works are suspended, at Washington, as assistant to the bureau.

Captain A. Canfield, directing harbor works on Lake St. Clair, work on the St. Clair flats, and Sault St. Marie canal.

Captain C. Graham, on sick leave.

Captain T. J. Crane, survey of the coast.

Captain J. McClellan, Tennessee river improvement.

Captain H. Stansbury, specially in charge of harbor of Cleveland, and general superintendent of harbor works on Lake Erie, except those under Major Turnbull.

Captain J. E. Johnston, in the superintendence of western river improvements.

Captain Thomas J. Lee, assistant to the bureau, and superintending improvements to the President's house.

Captain A. A. Humphreys, absent in Europe.

Captain W. H. Emory, under Department of the Interior, in the superintendence of the Mexican boundary survey.

Captain J. N. Macomb, directing the survey of the northern and northwestern lakes.

Captain J. H. Simpson, superintending the construction of certain roads in Minnesota.

Captain Lorenzo Sitgreaves, on light-house duty.

Captain J. C. Woodruff, on light-house duty.

Captain J. W. Gunnison, survey of Pacific railroad route.

Captain E. P. Scammon, survey of the lakes, under Captain Macomb.

Captain W. R. Palmer, survey of the coast.

Captain J. D. Webster, specially in charge of harbor and light-house work at Chicago, and in general superintendence of harbor works on Lake Michigan.

Captain G. Thom, on Mexican boundary survey, under Major Emory.

Lieutenant A. W. Whipple, Pacific railroad survey.

Lieutenant George G. Meade, certain light-house duties in the Gulf of Mexico.

Lieutenant M. L. Smith, Florida canal survey.

Lieutenant John Pope, survey from Dona Aña to the crossing of the Pecos, and to Preston, on Red river.

Lieutenant J. W. Abert has completed and reported survey of military reservation of Fort Snelling.

Lieutenant Wm. B. Franklin, light-house duty.

Lieutenant Wm. G. Peck, assistant instructor of mathematics, U. S. Military Academy.

Lieutenant Wm. F. Smith, attached to command of eighth military department.

Lieutenant E. L. F. Hardcastle, secretary to the Light-house Board.

Lieutenant F. T. Bryan, Florida canal survey, under Lieutenant M. Smith.
Lieutenant George H. Derby, superintending harbor improvement rks at San Diego, California.
Lieutenant R. S. Williamson, Pacific railroad survey.
Lieutenant N. Michelet, Mexican boundary survey, under Major nory.
Lieutenant John G. Parke, Pacific railroad survey, under Lieutenant illiamson.
Lieutenant G. K. Warren, western rivers, under Lieutenant Colonel hnston.
Lieutenant G. H. Mendell, lake survey, under Captain Macomb.
Lieutenant W. Rose, lake survey, under Captain Macomb.
Lieutenant P. Ives, Pacific railroad survey, under Lieutenant A. W. hipple.
Lieutenant W. R. Boggs, assistant to the bureau.
The Red River raft will be made the subject of special report. The lvertisements for proposals have not been successful.

Respectfully, sir, your obedient servant,

J. J. ABERT,
Colonel Corps Topographical Engineers.

Hon. JEFFERSON DAVIS,
Secretary of War.

Regulations in relation to river and harbor improvements.

I. All civil works of public improvement committed to the War Dertment will hereafter be planned and constructed under the direction either the chief of the corps of engineers or the chief of the corps of pographical engineers, as may be deemed most advisable.
II. The several works assigned by the Secretary of War. as above, all be committed to officers of said corps, respectively, under the ecial approval of the Secretary. Every officer in charge of a work all be under the orders of, and responsible to, the head of his own rps. Whenever it may be necessary to commit a work to a civil ent, he shall be appointed by the Secretary of War; to be in like anner responsible to, and under the orders of, the bureau to which his ork has been assigned.
III. From each of the above-mentioned corps a board shall be ornized, to consist of three members of the corps, who shall be aided, henever it may be deemed necessary, by a naval officer, to be deiled by the Secretary of the Navy for that purpose.
To this board shall be submitted, by the respective chiefs of corps, l plans or projects for river and harbor improvements. Every plan project for a work will be accompanied by an estimate of its cost. the estimate should vary from any heretofore made, the reasons for ch variance will be given.
The duties of each *of these boards shall be as follows*:
1. *To examine, approve, modify, or reject* every project or plan of

civil improvement proposed by any officer or civil agent, under instructions from the chief of the corps.

If any of said plans be approved by the board, with or without modification, they will submit them, with such remarks as may be thought necessary, to the chief of the corps.

If the board reject the plan of the officer or agent, they will either substitute a plan of their own, or they will recommend the course they may think best for procuring another project; at the same time returning the rejected project with their objections.

Any member of the board shall have the privilege of making a minority report.

In every case the said chief will lay the project under consideration; and the recommendation of the board, together with any minority report, before the Secretary of War, with any remarks he may have to make in support, by way of amendment or in opposition.

On the approval of a plan by the Secretary of War, it shall be carried into execution, without alteration, by an officer of the corps to which the subject was assigned by the Secretary of War, or by a civil agent employed for the purpose, under the direction of the chief of that corps.

If, however, in the opinion of the said officer or agent, circumstances should demand an alteration or abandonment of the plan, he will promptly report all the circumstances to be laid before the board, who, if they deem it necessary, will consider the subject anew.

2. The board will, as often as they may deem necessary, detail from their number one or more members for the inspection of works under execution.

The duty of these inspectors shall be to examine carefully, and report to the board, the character of the work in relation to prices paid; the quality of material and workmanship, and the general system of expenditure and administration; also, as to the conformity to the approved plan; and how far the actual expenditures conform to or vary from the estimate—if they should exceed the estimate, the cause of such excess.

Every such report shall be submitted to the Secretary of War by the chief of the corps, whose duty it shall be to call the attention of the Secretary to any point demanding notice; and especially to any neglect, want of skill, misconduct, or mal-administration on the part of any officer or agent in charge, whether knowledge of the same shall come to him through the reports of inspectors or in any other manner. And it shall also be the duty of the chief to make frequent personal inspections of these operations.

3. All plans and estimates to be submitted to Congress for new works, or for the completion of works already commenced, or the repairs of old works, will be prepared under the direction of the boards, and communicated to the chiefs of their respective corps.

4. Each board shall have an office in the building of this department, and, when necessary, shall be assisted by one or more subaltern officers of the corps; and also by one or more clerks, who shall record the proceedings in a book, and perform such other duties as may be imposed by the board.

Whenever the business of the board shall not require them to be in session, the members shall be employed in the inspections above provided for, or on other duty, as the chief of the corps, with the sanction of the Secretary of War, shall direct.

C. M. CONRAD,
Secretary of War.

WAR DEPARTMENT, *September* 10, 1852.

General order.

The following works, provided for by the act entitled "An act making appropriations for the improvement of certain rivers and harbors," shall be executed under the direction of the chief of the corps of engineers, viz:

1. All works and surveys on the Atlantic, and rivers emptying into it.
2. All works on the Gulf of Mexico, including those on the rivers emptying into it, except those of the Mississippi river, which, on the superintendence of the removal of the bar at its mouth, shall be assigned to him.
3. All surveys, estimates, reports, and other papers, relating to the works placed under the direction of the chief engineer, will be transferred to him by the colonel of the topographical corps.

All other works than those above mentioned, embraced in the act, are assigned to the chief of topographical engineers.

C. M. CONRAD,
Secretary of War.

WAR DEPARTMENT,
Washington, September 16, 1852.

IN THE SENATE OF THE UNITED STATES,
March 3, 1853.

Resolved, That the Secretary of War be requested to communicate to the Senate copies of all instructions and reports, with the accompanying plans and estimates, that have issued from, or been made to, that department, in executing the surveys and improvements of harbors and rivers, under the act approved August 30, 1852.

These instructions and reports to include the directions distributing the duties between the two corps of engineers, establishing the two boards of internal improvement, assigning the officers of the two corps to the several works, establishing special commissions, calling for estimates, directing the final plan of operation, and the reports of local engineers, special commissions, the two boards of internal improvement, and of the chiefs of the two corps, to the Secretary of War, upon which the final *instructions are based*; and also that copies

of all such instructions issued during the year be transmitted to Congress with each annual report of the Secretary of War.

Attest:

ASBURY DICKINS,
Secretary.

APPENDIX A.

Annual report on the survey of the north and northwest lakes.

DETROIT, *October* 25, 1853.

SIR: For the information of the Bureau of Topographical Engineers, I have the honor to submit the following account of the operations of the force under my command since the time of making my last annual report:

On returning to Detroit, the headquarters of the survey of the lakes, from the labors of the field, in October last, I found instructions from you to place the surveying steamer at the disposal of Captain Canfield, topographical engineers, to enable him to ascertain the result of the changes that may have taken place at the flats of the St. Clair during the previous ten years. On this duty I gladly accompanied Captain Canfield with a small portion of my command, when we were enabled, in the course of a few days, to make a satisfactory re-examination of that portion of the field, by using three triangulation points established by me ten years previously.

From November, 1852, until May, 1853, the several parties of the survey were occupied with the computations necessary to enable them to make the detail maps of their sections of the work, and in the construction and drawing of those maps.

Captain Gunnison prepared a new computation of the positions of the triangulation points in Green Bay, based upon a comparison of the rods used for the measurement of the base line in that quarter, with the standard measure recently furnished to this work. In this new computation he introduced the latitude of a point of the triangulation from my observations with the zenith telescope, and an azimuth observed by himself with one of our large theodolites, a superior instrument to any owned by the survey at the time of making the original observations in that part of the field. Shortly after the commencement of our office duties, Captain Scammon was taken from my command and ordered on duty in Florida. He had, however, before leaving me, perfected the preliminaries requisite for making the maps of his section of the previous summer's work; which maps were duly finished by the able assistants attached to his party.

In the month of November my force was increased by the addition of Lieutenants Mendell and Rose, who had recently joined the corps. On reporting to me, they were assigned to duty in the office under Captain Gunnison and Lieutenant Reynolds, whom they assisted in the duties of their respective subdivisions of the work, and also in the laborious computations for the reduction of the base line, the measure-

ment of which had been participated in by the whole force on duty in September, 1852.

Early in the spring of this year, just as I had made the allotment of field duties for the opening season, my plans were temporarily suspended by the necessity which occurred, causing the bureau to detach Captain Gunnison; and also by the loss of one of our experienced civil assistants, Mr. Potter, who was placed in charge of some of the harbor improvements under the topographical department. I was, however, soon relieved from this state of suspense by the agreeable announcement that Captain Scammon had been directed to rejoin our work; at the same time, my attention was called to the *proviso*, in the bill appropriating funds for the survey, requiring the immediate examination of the obstacles to navigation in the St. Mary's river, and calling for an early report thereupon. I accordingly made such a disposition of our force as the accomplishment of these new requirements seemed to call for.

A large party was ordered to the St. Mary's river, in charge of Capt. Scammon, assisted by Lieut. Mendell and three civil assistants, two of whom had served under Capt. Scammon in other parts of the field. This party was instructed to complete the survey of those portions of the St. Mary's river where obstacles to the navigation exist, and also to finish the surveys about the entrance of that river, by the détour passage into Lake Huron: the first being required to comply with the *proviso* already alluded to, and the last falling within the limits which had been marked out as constituting the area to be represented on a proper chart of the straits of Mackinac.

The party in charge of First Lieut. W. F. Reynolds, assisted by Lieut. Rose, topographical engineers, and two civil assistants, who had had a little experience on the work, was directed to take up the survey of the coast line and adjacent hydrography at the western termination of the last season's work on the south coast of the straits of Mackinac, and to continue to the westward to the limits of the shoal ground about Wangoshance light-house, and thence to the southward along the coast of Lake Michigan, to the southern limit of the sheet of the straits.

The part which I allotted to myself in the prosecution of the season's operations was, in addition to the general superintendence of the parties, the execution of soundings remote from shore, and the completion of the main triangulation which had been thus far conducted by me; also the observations for latitude and azimuths; in which last named operations I intended to associate one of the officers with me, and was enabled to detach Lieut. Reynolds from his party, for this purpose, towards the latter end of September.

The parties have now all returned from the field, having remained out as long as it was possible to prosecute our labors of the survey with a due regard to economy; the interruptions to field-work on the upper lakes becoming very frequent from the storms usual at this season of the year.

The great distance at which the two shore parties were from each other, (varying from seventy to one hundred miles,) together with the necessity for executing at once the survey of the obstructions to the easy navigation of the St. Mary's river, although they have not pre-

vented me from accomplishing as much work as I anticipated, yet they have somewhat diverted my labors from the straits of Mackinac, and kept me from finishing the deep-water soundings in the western section of the straits. This part of the work, however, can be completed before the engraver can be ready for it, as we have now the elements of what may well be considered a most perfect chart of the straits of Mackinac, and the approaches thereto from Lakes Huron and Michigan, embracing an area of about eighty miles by forty, or about 3,000 square miles, within which all the shores (main land and island) have been traced out, together with the minute hydrography from shore lines to the depth of five or ten fathoms, as well as that of twelve detached shoals, which have been completely examined from their crests in every direction to deep water; the shoals being accurately determined in position by the triangulation which extends over the whole work.

During the season which has just closed, I have accomplished the following work, in addition to the general business of correspondence and attention to the fiscal affairs of the survey, viz:

Number of stations of main triangulation built or repaired	6
Number of stations of main triangulation occupied with 10-inch Gambey theodolite	21
Number of tripod water stations on shoals	4
Number of buoys remote from shore	21
Soundings remote from shore, (chiefly in deep water)	1,115
Sextant and theodolite angles, for positions of same	250
Theodolite work for general triangulation { telescope pointings	1,810
Theodolite work for general triangulation { vernier readings	765
Micrometer readings (on Polaris) for azimuth	142
Observations for time	68
Observations for value of level scale	20
Observations on twenty stars passing within a degree of zenith, for determination of the latitude	69

The following is a synopsis of work done by the shore parties during the past season.

1. By the party in command of Capt. E. P. Scammon:

Number of stations built for secondary triangulation	133
Number of sounding stations	351
Number of buoys located	305
Number of tripod water stations on shoals	10
Number of miles of shore line run out with theodolite and chain	70½
Number of casts of the lead made and recorded	36,691
Number of miles of cutting through woods (for triangulation)	8⅓
Number of theodolite readings	9,000
Number of sets of observations for true meridian	2

Also, a map of the "East Neebish rapids," and one of the "flats of Lake George," each on a scale of eight inches to a mile.

2. By the party in charge of First Lieut. W. F. Reynolds, topographical engineers:

Number of stations built for secondary triangulation	19
Number of sounding stations	96

Number of buoys located	348
Number of water stations on shoals	2
Number of miles of shore line run with theodolite and chain	61¾
Number of casts of the lead made and recorded	30,886
Number of miles of cutting through woods (for triangulation)	6
Number of theodolite readings	3,359
Number of angles read with sextant	506
Number of sets of observations for true meridian	3

During the month of August Lieut. Reynolds was detached to Green Bay to finish some topography and get the requisite memoranda for the completion of the Green Bay chart. This change left Lieut. Rose in command of the party during that month. The results of Lieut. Reynolds' work at Green Bay were forwarded to the bureau in the early part of the present month.

Our force will be fully occupied during the coming winter in making the maps in detail from the notes of the past season's surveys, and with the computations and reductions for the general chart of the straits of Mackinac.

I would recommend that the work in the St. Mary's river be resumed in the spring by the party engaged there during the past season, that we may get the elements for a perfect chart of that route by the time of completing the ship canal to Lake Superior. For the remainder of the force, I would suggest the complete hydrographical survey of the Beaver Island group, and the prosecution of the main triangulation to the westward towards Green Bay. This would confine our operations to portions of the field of which it is daily becoming more desirable to have perfect charts; and it would be adhering to the good principle of finishing one district before commencing another.

With this report I beg leave to lay before you an estimate for continuing our operations next year. In this estimate it will be observed that I have introduced an item of fifty thousand dollars for an iron steamer, suitable for the operations upon the upper lakes, as the work is pushed forward to the less sheltered localities. The small iron steamer which we now have cannot be spared for the extensive repairs which she needs until her place can be supplied by another boat; and, as our work advances, there will be full employment for both steamers.

All of which is respectfully submitted by your obedient servant,

J. N. MACOMB,
Captain Topographical Engineers.

Col. J. J. ABERT,
Com'g Corps Top. Eng'rs U. S. A.,
Washington City, D. C.

Estimate of funds required for the survey of the north and northwest lakes for the year ending June 30, 1855.

For pay of civil assistants:

1 at $3 50 per day, *for 365 days*	$1,277 50
4 at 3 00 ..... do	4,380 00

4 at $2 00 per day, for 365 days	$2,920 00
1 at 4 00 .....do..... as draughtsman and computer	1,460 00
Rent of office in Detroit	400 00
Fuel for office	100 00
Allowance to five officers of topographical engineers in lieu of quarters and fuel, no longer paid by Quartermaster's department	1,825 00
For wages of petty officers and men, and the subsistence of parties in the field—three parties, (according to our present force,) at $9,000 each	27,000 00
Purchase of four new boats, at $200 each	800 00
Purchase of tents and camp equipage, $500 for each party	1,500 00
Transportation of men and freight on supplies	1,250 00
Steamer Surveyor, in ordinary six months	2,610 00
Coal for steamer—200 tons, at $5	1,000 00
Contingencies, viz: For transportation of boats, smith's work, lumber, spikes and nails, buoy anchors, rope and flags, paints, oils, leather, stationery, and drawing paper	4,000 00
	50,522 50
For a new steamer for the survey	50,000 00
Total amount of estimate	100,522 50

All of which is respectfully submitted by your obedient servant,

J. N. MACOMB,
Captain Topographical Engineers.

Col. J. J. ABERT,
Com'g Corps Top. Eng'rs, U. S. A.

CAMP, POTAGANNISSING BAY,
NORTH SIDE OF DRUMMOND ISLAND,
October 1, 1853.

SIR: Herewith I present maps of the East Neebish rapids and the flats of Lake George, as required by the act of Congress granting appropriations for the lake survey for the current year and your instructions to me at the commencement of this season's work.

The map of the Neebish will show that little is required to make it a safe and commodious channel for vessels drawing less than fifteen feet. The removal of a few small boulders would give a good channel, two hundred to three hundred feet in width, through the only part of the passage presenting any difficulties. At present, boats pass on the east side; but I am of opinion that the west side is more susceptible of improvement, as well because the passage on that side would be the more direct as because the existing obstacles are smaller, and would therefore be more easily removed. Small beacons should be

erected at the northern and southern extremities of the rapids, on the shoal, to facilitate the navigation in thick weather. Material for their construction can be obtained on either side of the Neebish. I think that the rapidity of the current at the rapids has been over-estimated when stated at four and a half miles per hour; it does not exceed three when the water at its two extremes is at the stage marked on the map. I am unable to give the difference of level between these points, although two attempts to run a line of levels were made; both failed on account of storms arising suddenly, and I did not think the immediate importance of this part of the work sufficient to justify the detention of my party, then about moving to our present camp to complete our work upon the straits of Mackinac.

As to the improvement of the flats in Lake George, it is impossible to give a definite opinion until our map of the whole lake is constructed. Either side of the lake can be readily dredged; but I am disposed to think that the west side offers a better channel than that now taken, a map of which is presented. At the north end of the flats there are three old cribs remaining, which formed part of a wharf constructed many years ago by the Hudson's Bay and American Fur companies. These would have to be removed before a good channel could be opened on the east side. On the west there are no such obstacles; besides which, for the greater part of the distance on this side there is now upwards of four fathoms of water; and I think that the map will show for the remaining distance a surer and easier passage than could, without great expense, be attained on the east. This opinion may be contradicted by the results of our survey. As it is impossible to construct a map of the whole lake without interrupting the work in the field, I have therefore been content to offer a plat of soundings on what is known as the "bar," leaving the rest of the lake until our return from the field.

I herewith present an estimate of cost for improving the "Ship Channel or East Neebish rapids," River Ste. Marie, as proposed in my report of October 1, 1853:

1. Two scows, at $1,000	$2,000
Derric, clamps, cordage, &c.	1,000
2. Twenty men, at $1 per diem, for 60 days	1,200
One foreman, at $2	120
Subsistence, transportation, &c.	700
Contingencies	880
	5,900

3. The cost of the proposed beacons, if erected, would of course depend upon the material employed, and the quality of the work, even if its precise character were determined. I would propose a triangular pyramid of stone and iron; the foundation of stone rising some five feet above the water, the upper portion of the structure being formed of three bars of iron united at the top and securely fastened to the three corners of the foundation, and so connected by horizontal ties as to give solidity to the *whole. This might be* painted so as to make a conspicuous *mark for vessels at any necessary* distance. The sides of

the triangular foundation of such a beacon need not be more than ten feet long at its top, as I presume that no great weight of masonry would be needed to resist the pressure of the ice, which must be very much broken before it reaches this point of the rapids. From the best information at my command, I presume that the two pyramids might be erected in a suitable manner, at the points indicated, for a sum not exceeding $5,000; but it would be impossible to give an estimate, in detail, until I have the means of ascertaining the cost of material, as well as of forming a more accurate notion of the details of the structure itself.

I remain, very respectfully, your most obedient servant,

E. P. SCAMMON,
Captain Topographical Engineers.

Capt. J. N. MACOMB,
Topographical Engineers, U. S. A., com'g, &c., &c.

APPENDIX B.

SAINT PAUL, M. T., *September* 17, 1853.

SIR: I have the honor to submit the following report of operations for the past year upon the general government roads of this Territory:

Road from Point Douglass to the St. Louis river of Lake Superior.—The following contracts have been completed upon this road during the year: The contract of Albert Harris, for the bridge over Deep Ravine at Stillwater; the contract of Messrs. Fullerton & Ford, for the section of road between the forty-ninth and fifty-sixth mile stations; and the contracts of John Rollins, for the section between fifty-sixth and sixty-eighth mile stations. The whole extent of road now completed, and in good travelling order, is that comprised between Stillwater and a point twelve miles beyond St. Croix, a distance of forty-three miles. The portion at present under contract, and to be finished during the present fall, is that comprehended between the twenty-first and twenty-fifth mile stations. Proposals have also been opened to-day, according to advertisement, for the construction of a bridge over Sunrise river, which is also to be finished before winter. The amount expended on account of this road, from the 31st June, 1852, has been $19,459 67.

Road from Point Douglass to Fort Ripley (Gaines.) The following contracts on this road have been completed during the past year: The contract of O. W. Rice, for the section included between station forty-nine and mile station twenty-one, a distance of nearly five miles; the contract of Geo. W. Sweet, for the sections included between sixty-fifth and eighty-second mile stations, a distance of seventeen miles; and a contract of Wm. Steorgis, for the section between the one hundred and first, one hundred and fifth, one hundred and thirteenth, and one hundred and fifteenth mile stations, a distance of six miles. In addition to this, the contract of O. W. Rice, for the bridge over Rum

river, is in process of completion, and will be finished during the present fall. The amount expended on account of this road since June 30, 1852, has been $11,942 10.

Road from the mouth of Swan river to the Winnebago agency, or Long Prairie.—The contract of S. B. Olmstead, for the section included between third and seventh mile stations and the twenty-fifth mile station, and the Mississippi river, inclusive of the bridge and causeway over Turtle creek; the bridge over Bearhead creek; and the bridge over Swan creek, has been completed. The amount expended on account of this road since the 30th June, 1852, has been $6,732 79.

Road from Wabashaw to Mendota.—The following contracts for this road are in process of completion, and will be finished during the present fall: The contract of F. S. Richards, for the bridge over the slough at Wabashaw; the bridge over Smith's creek with its approaches, and the portion of road between Reed's landing and stake four hundred and seven, at the top of the ravine back of Raçcicots, a distance of nearly three miles; and the contract of J. W. Bond, for the grading of the bluff back of Mendota. The amount expended on account of this road since 30th June, 1852, has been $1,070 90.

For each of these roads I would recommend for the coming year the appropriation of at least the amounts which were made by Congress at its last session, except the amount appropriated for the road from Wabashaw to Mendota; and this should be not less than $15,000, on account of the bridging which is absolutely required on the road to make it passable.

I am, sir, very respectfully, your obedient servant,

J. H. SIMPSON,
Captain Corps Top. Engineers.

Col. J. J. ABERT,
Chief of Corps Top. Engineers, Washington, D. C.

APPENDIX C.

OFFICE WESTERN RIVER IMPROVEMENTS,
Louisville, September 1, 1853.

SIR: I have the honor to submit my eleventh annual report on the improvement of western rivers, and in relation to the various other duties that have occupied my attention during the fiscal year beginning July 1, 1852, and ending June 30, 1853.

The duties for consideration embrace the following details, viz:

1. The improvement of the western rivers.

2. The direction of the office work, &c., relating to the survey of the delta of the Mississippi.

3. Sundry duties relating to the construction of marine hospitals at Louisville, Paducah, Napoleon, and Natchez.

4. Duties as a member of the "board appointed to make a survey and examination of the various plans for canals around the falls of the Ohio river, *and the enlargement and extension* of the present canal."

5. Duties as a member of the board of lake harbors and western rivers.

6. Resumption of duties relating to the improvement of the western rivers, especially of the Ohio, Mississippi, Arkansas, Missouri, and Illinois rivers, including the agencies at Dubuque harbor, Rock Island rapids, Des Moines rapids, Ohio river, including Cumberland dam and Illinois river.

1. *Improvement of the western rivers.*

This head comprises the duties and operations relating to the disposition proper to be made of the instruments, books, maps, stationery, &c., and of the various articles of public property procured for said improvements; to the sale of various articles of public property of a nature too perishable to be preserved for future use; to additional surveys at the falls of the Ohio, &c., &c.

The means of prosecuting these duties are such as have been derived from old appropriations by Congress for western river improvements; and, more immediately, from the sale of boats and other perishable property damaged and partially worn out in service, and thereby rendered unfit for future use.

The receipts and expenditures on account of western river improvements, including sales of public property as above, are as follows, viz:

RECEIPTS.

Unexpended balance on hand, arising from the sources above mentioned, July 1, 1852	$5,686 23
Amount received from J. W. Russell, for old machinery transferred	5,734 49
Amount received from J. W. Russell, for machinery transferred	1,453 06
Total of receipts to be accounted for	12,873 78

EXPENDITURES.

For 3d quarter of 1852	$506 50	
For 4th quarter of 1852	818 05	
For 1st quarter of 1853	418 46	
For 2d quarter of 1853	882 98	
Total for the year		2,625 99
Unexpended balance on hand July 1, 1853		10,247 79

The disposition proper to be made of this balance is, that it be held in reserve to meet contingent expenses incident to the prosecution of the snag business generally, and to other services pertaining to western improvements, including travelling allowances, commutation for id quarters, office rent, attendance and fuel, clerk hire, compen- pay-agents, and to other individuals necessarily employed on ier duties.

2. Office-work, and pertaining to the delta survey.

The arrangement of the field-notes taken on the survey, and the execution of drawings based thereon, has been confined to Lieutenant Warren, who was instructed to avail himself of the assistance of Lieutenant Abert and George E. Fuller, esq., in their preparation.

The report of Lieutenant Warren (see Appendix, Document A) will show the progress made in these delineations, &c., and the work still remaining to be done in reference thereto.

The office-work, &c., pertaining to the hydrometric operations at and near New Orleans, had been intrusted to C. G. Forshey, esq., of Carrolton, in the vicinity of New Orleans, who has had all matters of this sort under his personal charge, but has not yet submitted his final report in relation thereto.

I have been apprized from time to time of the progress made in his work, and of the difficulties attending it, but have hitherto had no opportunity of collating the partial reports submitted, nor do I deem such an effort needful, as the whole is expected to be embodied in proper form by the superintendent of the hydrometric survey.

The receipts and expenditures on account of the delta survey, during the last fiscal year, are as follows, viz:

RECEIPTS.

Unexpended balance on hand July 1, 1853	$205 46
Amount of receipts for fiscal year ending 30th June, 1853	4,000 00
Receipts for sales of damaged public property	214 47
Total receipts to be accounted for	4,419 93

EXPENDITURES.

For 3d quarter of 1852	$141 54	
For 4th quarter of 1852	1,691 27	
For 1st quarter of 1853	1,244 91	
For 2d quarter of 1853	1,082 28	
Total for the year		4,160 00
Unexpended balance on hand July 1, 1853		259 93

This balance is deemed applicable to the liquidation of sundry outstanding claims for services, and for the accounts incident to the prosecution of the drawings, and of the hydrometric operations still in progress; for the completion of which, additional requisitions, under the appropriation for the delta survey, may from time to time be found necessary.

3. *Construction of marine hospitals.*

The marine hospitals at Louisville, Paducah, and Natchez, in so far as relates to the buildings proper, have been so far completed that they have been deemed ready for occupancy, in furtherance of the objects for which they were intended.

The hospital at Napoleon still remains unfinished, and unfit for such occupancy, and in the condition represented in my last annual report. A few additional remarks, explanatory of the condition of the several hospitals, will be given under the head of each respectively, as follows, viz:

Marine hospital at Louisville.

On the opening of this hospital for the reception of patients, on or about the 1st of January, 1852, which was done without any formal official notice to me as the superintendent of its construction, the drains leading from the water-closets to the sink-vaults were incomplete, and in some respects defective, especially for want of sufficient declivity to convey away the furs deposited in them. The alterations required on the account last mentioned, and the proper completion of the drainage, could not be effected at that time, by reason of the almost entire exhaustion of the funds that had been appointed for the construction of the hospital.

[The unexpended balance on hand, at the time referred to, was only $24 31, as per account current rendered for 4th quarter 1851.]

These imperfections remained as unabated nuisances till the 3d quarter of 1852, nearly an entire year from the date of occupancy. On the 21st September of that year funds were received from the treasury under an appropriation of Congress, approved August 30th of that year, and suitable remedies for the evils alluded to were applied as early thereafter as practicable. At the same time, and with similar means, measures were taken for the construction of the hot-air furnaces, air-conductors, &c., for warming the building, supplying the bath-rooms with hot water, &c., which were accomplished and brought into operation prior to the commencement of the winter season.

The receipts and expenditures on account of the Louisville hospital, during the last fiscal year, are as follows, viz:

RECEIPTS.

Unexpended balance on hand July 1, 1852	$107 61
Amount of receipts from United States treasury for succeeding fiscal year ending June 30, 1853	2,000 00
Total receipts to be accounted for	2,107 61

EXPENDITURES.

3d quarter of 1852	$650 00	
4th quarter of 1852	977 79	

1st quarter of 1853	$25 00	
2d quarter of 1853	0 00	
Total expenditures for the year		$1,009 29
Unexpended balance on hand July 1, 1853		1,098 32

This balance may be advantageously applied to the laying of brick pavements in front, and at the ends, and in rear of the hospital, to serve as walks around the building, affording easy communication with its doors in muddy weather.

Marine hospital at Paducah.

The operations relating to the construction of this hospital, within the last fiscal year, consist mainly in the removal of a large body of earth from the easterly to the westerly side of the hospital lot, in front of the building, which has been done for the purpose of forming a regular ramp, or descending grade, from the front line of the hospital downwards to the surface of extreme high water of the river. This work was arrested in its progress, when nearly completed, for want of funds for its entire accomplishment.

The receipts and expenditures on account of the Paducah hospital, during the last fiscal year, are as follows, viz:

RECEIPTS.

Unexpended balance on hand July 1, 1852	$540 69

EXPENDITURES.

3d quarter of 1852	$460 40	
4th quarter of 1852	35 20	
1st quarter of 1853	37 50	
2d quarter of 1853	0 00	
Total expenditures for fiscal year		533 10
Unexpended balance on hand July 1, 1853		7 59

This balance is applicable in part payment of an unliquidated claim of $15 still outstanding against the hospital.

Marine hospital at Napoleon.

This hospital remains in an unfinished condition, very little having been done in relation to its construction since the date of my last annual report—the carpenter's work being nearly completed, especially with respect to the ceilings of the piazzas. The entire building, without and within, remains unpainted, although the oil, paints, &c.,

requisite for that purpose, have been procured, and various other items of work relating to the construction continued in the condition explained in the report above cited.

An appropriation of $4,000 was passed and approved on the 3d of March, 1853; and on the 1st of June of the same year I forwarded a conditional requisition for 2,000 for carrying on the work; but as yet the requisition remains unanswered. (See Appendix, Doc. B.)

Agreeably to a report from the individual to whom the custody of the building and of the public property pertaining thereto were intrusted, dated on the 24th May last, considerable injury had been done to one of the sink vaults, in consequence of the high water then prevailing at the site of the hospital, the repair of which may no doubt be effected at a moderate cost; but no funds for this or any other purpose relating to the construction and completion of this hospital, having been placed at my disposal, nothing has been done in these respects.

The ordinary outlays incident to the custody and safe-keeping of the hospital, and other public property pertaining to the same, are the only expenses incurred on account of this hospital.

The receipts and expenditures on account of the Napoleon hospital, during the last year, are as follows, viz:

RECEIPTS.

Unexpended balance on hand July 1, 1853	$191 06
Amount received from United States treasury for succeeding year, (errors included.)	2,001 29
Total receipts to be accounted for	2,192 35

EXPENDITURES.

3d quarter of 1852	$1,978 76	
4th quarter of 1852	73 30	
1st quarter of 1853	0 00	
2d quarter of 1853	0 00	
Total expenditure for fiscal year		2,052 06
Unexpended balance on hand July 1, 1853		140 29

This balance should be applied to the liquidation in part of outstanding claims, on account of the custody and safe-keeping of the hospital and other public property pertaining to the same, the accounts for which have not yet been presented.

Marine hospital at Natchez.

The condition of this hospital remains the same as represented in my last annual report. Nothing has been done towards the grading at the hospital site, the fencing of the hospital yard, or the construction of *hot-air furnaces for* warming the building, &c., &c.

By an act of Congress approved March 3, 1853, $4,000 was appropriated for the completion of this hospital; also, a conditional requisition for 2,000 of this appropriation was made on the 1st of June last, but no funds were remitted in answer thereto, and of course no arrangements have been made for the accomplishment of the objects of the appropriation. (See Doc. B, before cited.)

The receipts and expenditures on account of the Natchez hospital, during the last fiscal year, are as follows, viz:

RECEIPTS.

Unexpended balance on hand July 1, 1852	$95 62

EXPENDITURES.

3d quarter of 1852	$4 25	
4th quarter of 1852	56 00	
1st quarter of 1853	0 00	
2d quarter of 1853	0 00	
Total expenditure for year		60 25
Unexpended balance on hand July 1, 1853		35 37

This balance, together with an amount considerably greater, will probably be absorbed by outstanding claims not yet presented.

4. *Examination, survey, and report on the various methods devised for the improvement of the Falls of the Ohio at Louisville.*

These subjects were referred to a board of engineers, consisting of Lieutenant Colonel Long, Colonel Turnbull, and Charles B. Fisk, esq., to which Lieutenant J. W. Abert was appointed secretary. The members of the board assembled at Louisville, Kentucky, and after having completed the examinations, surveys, and other investigations deemed appropriate, adjourned to meet at Washington, D. C., for the purpose of preparing and submitting their report on the main topics to which their attention had been directed.

Their report was compiled and submitted on the 14th February last, and subsequently printed under the designation of Senate Doc. No. 42, 32d Congress, 2d session.

To the report just cited I take leave to refer for all details rela ting to the investigations, and for the results derived therefrom. As disbursing agent for the board, I subjoin a statement of the receipts and expenditures incident to the services in question, which are as follows viz:

RECEIPTS.

October 4, 1852. Treasury draft No. 3,025, on war warrant 7,441	$2,500 00
February 19, 1853. Treasury draft No. 3,726, on war warrant No. 8,212	2,000 00
Amount of receipts	4,500 00

EXPENDITURES.

Amount of expenses incurred by direction of the board	3,688 93
Unexpended balance on hand July 1, 1853	811 07

This balance will be refunded to the Treasury Department on the adjustment of my accounts relating to the same, rendered in February last.

5. *Duties with the board of lake harbors and western rivers.*

On the 17th January, 1853, I entered on my duties as a member of this board, and continued to serve in this capacity, at the office of said board at Washington, from that date till the 27th of April following, viz:

During this period the attention of the board, and myself, as a member of the board, were directed to various topics proper for the consideration of the board under its titular cognomen, and to various other subjects relating to projected railroads from Savannah, Georgia, to the Gulf of Mexico; from Charleston, South Carolina, through Vicksburg, and to San Diego; and to the contemplated national railroad from the Mississippi to the Pacific ocean. (See Appendix, Doc. 6.)

The proceedings of the board, prior to the date last mentioned, have been duly reported to the Topographical bureau, and to them I have to refer for any information that may be required in relation to the subjects submitted to their consideration.

6. *Resumption of duties relating to the improvement of the Ohio, Mississippi, Missouri, Arkansas, and Illinois rivers, &c.*

By an order from the Topographical bureau, dated April 27, 1853, and expressly sanctioned by the honorable Secretary of War on the same day, I was directed to take the charge and direction of all works and operations relating to the improvement of the rivers above mentioned.

On the same date I issued a circular, addressed to the several agents appointed to the charge and direction of various local works, relating to the construction of snag-boats, dredge-boats, &c., and to the improvement of the Ohio river, including Cumberland dam; to the improvement of Rock Island rapids, including the harbor of Dubuque; to the improvement of the Des Moines rapids; and to the improvement of the *Illinois river.* A copy of the circular is herewith submitted. (See Appendix, *Doc. D.)*

On repairing to headquarters western river improvements, which were established at Louisville by the order above cited, and on the receipt of information called for by the circular above mentioned, I found that the requisitions made on the United States treasury for funds required for the prosecution of the works and operation then in progress, were likely to exceed, in one or more instances, the specific appropriations designed for the individual works then in progress.

The requisitions upon the United States treasury appear to have been made, and funds remitted thereon, without due regard to the nature and extent of the objects to be effected thereby, or the limitations fixed by Congress to the several appropriations applicable to these objects.

An appropriation for $150,000 was made for the construction of snag-boats, mud-scows, &c., under which five twin snag-boats, two steam dredge-boats, and eight mud-scows were contracted for and authorized to be constructed. The appropriation proved inadequate, by a large deficiency, to the construction, equipment, and outfit of the several crafts that had been contracted for. To supply the deficiency, encroachments must be made on other appropriations. The appropriations thus invaded were those for the improvement of the Ohio including Cumberland dam, of the Mississippi below the rapids, of the Arkansas, of the Missouri, and of the harbor of Dubuque.

In the vouchers that had been taken, except in so far as they were based upon specific contracts and stipulated salaries, and in the payments made thereon, charges made for items of construction, items of equipment, items of outfit, &c., were indiscriminately blended in the same voucher, and could not be arranged under the several heads in any other way except that of splitting or distributing the items charged in the voucher under two or more distinct heads. The work of construction has been so long in progress, and so far advanced at the time of my arrival, that the preparation of new vouchers, arranged in conformity to the appropriation to which they properly related, was utterly impracticable; and the only alternative expedient remaining for choice consisted in the employment of the old vouchers, and the arrangement of their contents under different heads, corresponding to the several appropriations that had been invaded.

My attention was accordingly directed to such a classification of the expenditures and liabilities already incurred as would bring them under the specific appropriations to which they were legitimately chargeable. The nature and extent of the charges, both actual and anticipated, having been ascertained with the utmost attainable precision, a method of classification was adopted, and a project of the same made the subject of a report to the Topographical bureau, under date of May 25, 1853. A modified copy of the report is hereto annexed. (See Appendix E.)

The classification and arrangements in the report just referred to were not sufficiently correct in all their details, for want of adequate returns from some of the agents. Accordingly, they have been revised, corrected, and extended so as to embrace all expenditures under the specific appropriations *therein enumerated*, (except those for the improvement *of the Illinois and of the rapids* of the upper Mississippi,

which have not yet been encroached upon,) and have been substituted in the appendix report for the original schedules inserted therein.

In further explanation of the modified arrangement or classification, it should be observed that all the expenditures made by J. W. Russell, J. Barney, and C. A. Fuller, esqs., from the commencement of their agencies to the end of the second quarter of the current year, are included in the schedules contained in the report.

Accordingly, all the expenditures that have been made to the end of the last fiscal year, in relation to which there can be any doubt as to the particular appropriations to which they are respectively chargeable, are brought within the classification, and may readily be adjusted by the accounting officers of the Treasury Department in a manner conformable thereto. This mode of adjustment may indeed be regarded as the best if not the only method by which the expenditures can be arranged under the respective appropriations to which they are legitimately chargeable.

Moreover, by adopting the method of adjustment proposed as above, we shall be able to enter the current fiscal year, beginning on the 1st of July ultimo, in so far as relates to existing appropriations affected by the disbursement of the last or preceding fiscal year, with the expenditures and balances exhibited in the following synopsis, derived from the schedules of the report above cited. (See Appendix, Doc. E.)

Synopsis of appropriations, expenditures and unexpended balances, existing on the 1st of July, 1853, according to classification in Document E.

Object of appropriations, approved August 30, 1850.	Amount of appropriation.	Am'nt disbursed June 30, 1853.	Unexpended balances July 1, 1853.
Designation of appropriations affected.			
Construction of snag and dredge-boats	$150,000 00	$146,029 18	$3,970 82
Improvement of Ohio, including Cumberland dam.....	90,000 00	7,847 87	82,152 13
Improvement of Mississippi below rapids..	90,000 00	16,821 81	73,178 19
Improvement of Missouri.....	40,000 00	7,476 38	32,523 62
Improvement of Arkansas	40,000 00	7,476 38	32,523 62
Improvement of harbor of Dubuque.....	15,000 00	9,370 67	5,629 33
Total of appropriations affected.....	425,000 00	195,022 29	22,977 71
Designation of appropriations not affected.			
Improvement of rapids of upper Mississippi	100,000 00	*2,000 00	98,000 00
Improvement of Illinois river.....	30,000 00	*1,000 00	29,000 00
Total of appropriations affected and unaffected.....	555,000 00	198,022 29	356,977 71

*Sums drawn but not accounted for.

For the purpose of affording a direct and ready contrast between the summary classification as above, and a similar classification of the accounts actually rendered, I here subjoin a synopsis of specific appropriations of the amounts actually drawn under each, respectively, and of the balances undrawn and remaining for expenditure on the 1st July, 1853.

Synopsis according to the accounts rendered.

Object of appropriations, approved August 30, 1852.	Amount of appropriation.	Am'nt disbursed June 30, 1853.	Unexpended balance July 1, 1853.
Designation of specific appropriations.			
Construction of snag and dredge-boats.....	$150,000 00	$144,121 35	$5,879 65
Improvement of Ohio river, including Cumberland dam	90,000 00	21,807 90	68,192 10
Improvement of Mississippi below rapids...	90,000 00	14,096 60	75,903 40
Improvement of Missouri	40,000 00	6,779 00	35,221 00
Improvement of Arkansas	40,000 00	6,770 92	33,229 08
Improvement of harbor of Dubuque.....	15,000 00	2,497 19	12,502 81
Total of appropriations affected.....	425,000 00	196,072 96	228,907 04
Improvement of rapids of upper Mississippi.	100,000 00	2,000 00	98,000 00
Improvement of Illinois river.....	30,000 00	1,000 00	29,000 00
Grand total.....	555,000 00	199,072 96	355,927 04

On a comparison of the two synopses above given, discrepancies of a considerable amount are observable, which may be explained as follows, viz:

1. In J. W. Russell's account for the first quarter of 1853, two credit vouchers were introduced and charged on the debit and credit sides of his account current, amounting to $934 42, as stated at the end of schedule No. 1, (in Appendix, Doc. E,) which ought not to be credited to the appropriation, viz..... $934 42
2. In J. W. Russell's account for the fourth quarter of 1852, on voucher No. 28, is a charge for transportation on official business, which has not been sanctioned by the Topographical bureau, the amount of which is 41 25
3. In accounts of same agent for first quarter of 1853 is a similar acccount (voucher No. 37) of transportation not sanctioned by the Topographical bureau, the amount of which is..... 75 00

The amount of these several items is..... 1,050 67

This amount is precisely equivalent to the discrepancy in the two synopses, and exactly covers the same.

Hence the arrangements in the classification, and those based on

the accounts proper, with respect to receipts and expenditures, are precisely equivalent the one to the other. For example:

1. The total amount of disbursements under the affected appropriations is, by the accounts	$199,072 96
2. The total amount of disbursements under the affected appropriation by the classification is	198,022 29
The difference between these two amounts is equal to the amount of discrepancies	1,050 67
3. The total amount of unexpended balances under the affected appropriations by the classification is	356,977 71
The total amount of unexpended balances under the affected appropriations by the accounts is	355,927 04
The difference between these two amounts is the same as above, viz:	1,050 67

In regard to the unaffected appropriations mentioned in the foregoing synopsis—viz: those for the improvement of the rapids of the upper Mississippi and for the Illinois—it is proper to observe, in this connexion, that $2,000 was received on the 7th of June, in answer to a requisition for that sum, on account of the survey of the rapids; but as the survey was not commenced till about the first of July, and as partial returns merely have yet been made in reference to the expenditures incurred on account of the survey, the disbursements must remain for exhibition in a future report. Also, that $1,000 was received on the 15th of August, in answer to a requisition for the survey of Illinois river, the returns for which are in like manner wanting, and must remain for future consideration.

The measures taken and instructions given in reference to the improvements mentioned in the preceding paragraphs, are explained in my instructions to Lieutenant Warren and Messrs. Barney and Floyd, a copy of which is appended to this report; (see Appendix, Doc. F;) also, in my report on an examination and inspection of the Ohio river, &c., (see Appendix, Doc. G,) and in additional instructions to Lieutenant Warren. (See Appendix, Doc. H.)

It should, moreover, be observed, in reference to the Illinois river, that a change has taken place in the agency for the improvement of that river, which has prevented the adoption of measures for a preliminary survey of the river till a very recent date.

The new agents, assisted by the engineer recently appointed, are probably at this time engaged in the preparation of boats, &c., requisite for the survey, the latter having been directed to repair hither, as early as practicable, for the attainment of instruments proper for that purpose.

The progress made in the duties confided to J. W. Russell, esq., and other agents operating within the limits of my superintendency, will now be considered.

The agency for the construction of snag-boats was conferred on

J. W. Russell, esq., by letter of appointment from Hon. C. M. Conrad, late Secretary of War, under date of September 8, 1852.* He entered upon the duties of his appointment soon after the receipt of the letter, and made arrangements for the construction of four twin snag-boats, and afterwards recommended the construction of a light-draught snag-boat with a single hull; instead of which, he was subsequently instructed by the Topographical bureau to construct a light-draught snag-boat with twin hulls. The construction of these boats has been prosecuted with due diligence, but has been attended with serious embarrassments, occasioned by the heavy advances in the prices of materials, labor, and subsistence, which took place soon after the work of construction was commenced.

The changes in the prices of materials, labor, &c., contributed not only to delay the work of construction, but to render it far more expensive than it would otherwise have been.

Agreeably to the returns of Captain Russell, the receipts and expenditures in relation to the construction of the boats within the last fiscal year are as follows, viz:

RECEIPTS.

1. Under the appropriation for construction of snag-boats	$122,934 42
2. Under the appropriation for improvement of the Mississippi	21,000 00
3. Under the appropriation for improvement of the Arkansas	6,000 00
4. Under the appropriation for improvement of the Missouri	6,000 00
Total of receipts, as above	155,934 42

EXPENDITURES.

1. Under appropriation for construction of snag-boats, as above	$126,202 00
2. Under appropriation for improvement of the Mississippi, as above	14,096 60
3. Under appropriation for improvement of the Arkansas, as above	6,770 92
4. Under appropriation for improvement of the Missouri, as above	6,779 00
Total of expenditures, as above	153,848 52
Unexpended balance in the hands of J. W. Russell, United States agent, on the 1st July, 1853	$2,085 90

This balance will be absorbed in the final adjustment of the accounts of J. W. Russell, as *hereinafter considered, in* connexion with estimate, *&c., for the current fiscal year.*

With respect to the services confided to the supervision and direction of C. A. Fuller, esq., United States agent for the improvement of the Ohio, including Cumberland dam, they embrace the construction of a steam dredge-boat; the equipment and outfit of a light twin snag-boat, planned and constructed for the most part under the direction of J. W. Russell, esq.; the repairs of Cumberland dam; the dredging of a channel between the Kentucky shore and Cumberland island, and the removal of snags and other obstructions from the Ohio above the falls.

These operations have been prosecuted with due diligence till the present time, and are still in progress, except in so far as relates to the removal of snags, &c.; this business having been unavoidably suspended by reason of the low stage of the Ohio, and the impracticability of passing the snag-boat over the falls, and of entering upon appropriate service below that point.

For statements of work done in removing obstructions from the Ohio above the falls, I take leave to refer to the report of C. A. Fuller, esq., herewith submitted.

In accordance with the returns of C. A. Fuller, esq., the receipts and expenditures relating to the services performed under his direction are as follows, viz:

RECEIPTS.

Total receipts for the last fiscal year on account of improvement of Ohio, including Cumberland dam, as per returns of C. A. Fuller, esq.	$27,300 00

EXPENDITURES.

For 3d quarter of 1852	$0 00
For 4th quarter of 1852	0 00
For 1st quarter of 1853	336 00
For 2d quarter of 1853	21,471 90
	21,807 90
Unexpended balance in the hands of C. A. Fuller July 1, 1853	$5,492 10

This balance has already been absorbed in the prosecution of the duties above mentioned within the current year.

The progress made in these duties since the 1st of July last, and the probable cost of their prosecution during the current year, are sufficiently discussed in a report of C. A. Fuller, esq., appended to this report; agreeably to which, the expenditures incident to the services under his direction are likely to exhaust the appropriation for the improvement of the Ohio, &c., prior to the close of the current year.

The attention of Mr. Fuller, since the beginning of the fiscal year, has been directed to certain surveys and examinations on the Ohio above the falls, under instructions dated on the 2d of August last.

The report of C. A. Fuller, esq., above cited, will show the nature *and extent of his proceedings* under these instructions.

The duties of J. Barney, esq., within the last fiscal year, have been such as relate almost exclusively to the construction of a dredge-boat, intended to operate, in the first instance, in dredging the harbor of Dubuque, and subsequently at other points on the western rivers where the process of dredging might be required. The boat, mud-scows, &c., were not sufficiently advanced towards completion to admit of their being employed in dredging till the close of the year.

The returns of Captain Barney, like those of J. W. Russell, have been rendered somewhat complicated and confused by reason of encroachments upon different appropriations.

His requisitions for funds for the prosecution of his operations have been answered by remittances from the United States treasury, under the appropriation for the construction of snag-boats, dredge-boats, &c., and under the appropriation for the improvement of Dubuque harbor; whereas the work of improvement proper at this point was not commenced within the year. Nevertheless, the equipment and outfit of his boat, and the expenses incident to its conveyance from Louisville to Dubuque, may fairly be regarded as chargeable to the latter appropriation.

Agreeably to the returns of J. Barney, esq., his receipts and expenditures under the appropriation above mentioned, and within the last fiscal year, are as follows:

RECEIPTS.

1. Under appropriation for harbor of Dubuque.....	$4,283 00
2. Do.....do.....for construction of snag-boats, &c..	18,596 00
Total amount of receipts for the year.....	22,879 00

EXPENDITURES.

Under 1st appropriation as above	$2,497 19	
Under 2d.....do .....do.....	17,918 35	
Total amount of expenditures for the year.....		20,415 54
Unexpended balance in hands of J. Barney July 1, 1853..		2,463 46

This balance, together with additional funds already remitted on requisition of J. Barney, will have been absorbed in expenditures for the current year, a portion of which—viz. about $15,000—will be chargeable to the account of the construction of three mud-scows completed within this year, and of course not included in schedule No. 3 of Appendix, Doc. E.

The classification explained and exhibited in the Appendix (see Doc. E) embraces the identical accounts from which the foregoing summaries are derived, and exhibits precisely the same results with respect to the aggregate of receipts and expenditures, though differently modified in their relations to *specific appropriations.*

For example, the total amount of receipts from United States trea-

sury, exhibited in the statements derived from the returns of the three agents above mentioned, including unexpended balances in hands of agents, is $205,179.

The same amount of receipts is also exhibited in the arrangement presented in Doc. E, including unexpended balances in the hands of agents, viz: $205,179.

The total amount of expenditures derived as above from the returns of the same agents, due allowance being made for discrepancies as before, is $195,022 29.

The same amount of expenditures is also exhibited in the arrangements presented in Doc. E, viz: $195,022 29.

While, at the same time, the unexpended balances of the several appropriations in one case are very different from the corresponding balances in the other case, as may be readily seen by an inspection of the following tabular synopsis:

Object of appropriation.	Amounts appropriated.	Expenditures by accounts.	Unexpended balances.	Expenditure by classification.	Unexpended balances.
Construction of snag-boats, &c.....	$150,000 00	$144,121 35	$5,879 65	$146,029 18	$3,970 82
Improvement of the Mississippi	90,000 00	14,096 60	75,903 40	16,821 81	73,178 19
Improvement of the Arkansas.....	40,000 00	6,770 93	33,229 08	7,476 38	32,523 62
Improvement of the Missouri..... ...	40,000 00	6,779 00	33,221 00	7,476 38	32,523 62
Improvement of the Ohio, &c.....	90,000 00	21,807 90	68,192 10	7,847 87	82,152 13
Harbor of Dubuque ..	15,000 00	2,497 19	12,502 81	9,370 67	5,629 33
Total	425,000 00	196,072 96	228,927 04	195,022 29	229,977 71

In addition to the appropriations considered in the foregoing synopsis, two other appropriations have been made, viz: one of $100,000 for the improvement of the rapids of the upper Mississippi, and the other of $30,000; all approved on the 30th August, 1852.

On the 6th June the sum of $2,000 was remitted to my credit, under the appropriation for the improvement of the rapids, and preparations were at once made for the preliminary survey of these obstructions. But as the field and river work could not be commenced till about the close of the last fiscal year, my account current for the last quarter of that year (2d quarter of 1853) embraces an expenditure of $181 90 only.

The account current embraces the following items, viz:

RECEIPTS.

June 6, 1853. Treasury draft No. 4,373, on war warrant *No. 8,986, for* $2,000 00

EXPENDITURES.

Amount of expenditures incurred under said appropriation.	$181 90
Unexpended balance on hand July 1, 1853	1,818 10

This balance is applicable in defraying the expenses of the survey now in progress at the rapids, under the direction of Lieutenant Warren, aided by Messrs. Barney and Floyd, United States agents for the improvement of said rapids.

7. The equipment and outfit of the snag-boats, and including an adjustment of the accounts of J. W. Russell, esq., United States agent.

8. The disposition made of the several boats with respect to western river improvements.

9. The improvement of the harbor of Dubuque, of the rapids of the upper Mississippi, and of the improvement of the Illinois river.

10. Estimated probable cost of prosecuting these several improvements during the current fiscal year.

11. Estimated probable cost of continuing the same improvements during the fiscal year beginning July 1, 1854, and ending on June 30, 1855.

The discussion of the several topics comprised under the foregoing heads, in so far as relates to their fiscal bearings, will be considered as being in continuation of those statements under the preceding heads, which have been based upon the classification in the Appendix, (Doc. E,) and must, from the nature of the cases, for the most part, be predicated on mere suppositions and probabilities.

With respect to the equipment and outfit of the snag-boats, however, and especially those which have been completed and furnished under the direction of J. W. Russell, esq., adequate returns have been made, in which all the items of equipment and outfit of the snag-boats, not included in the returns for the last fiscal year, have been distinctly set forth, as hereinafter explained, except in so far as relates to the personal services, &c., of Captain Russell, as hereinafter mentioned.

7. *Equipment and outfit of snag-boats.*

On the representation of J. W. Russell, esq., United States agent for the construction of snag-boats, &c., that these boats (numbered 1, 2, 3, 4) were completed and ready for service, they were transferred from the charge and custody of that officer on the 26th day of July last, and assigned to the command of captains duly appointed, by orders of the honorable Secretary of War, to those stations.

The transfer as above having been made, the boats were at once assigned to their appropriate duties on the Arkansas, Missouri, and Mississippi rivers, and took their departure accordingly on the 29th of the same month.

The first object claiming attention thereafter was a settlement of all accounts relating to the agency of Captain Russell up to the date inclusive on which it terminated, viz: on the 26th July, 1853. The settlement resulted as follows:

RECEIPTS.

Unexpended balance from last fiscal year, ending June 30, 1853, as per account current of J. W. Russell, for second quarter of 1853	$2,085 90
Funds advanced by Lieut. Col. Long, under appropriation for the improvement of the Mississippi	8,555 34
Funds advanced by Lieut. Col. Long, under appropriation for improvement of the Arkansas	3,802 33
Funds advanced by Lieut. Col. Long, under appropriation for improvement of the Missouri	3,802 33
To which should be added amount of suspended voucher No. 28, for fourth quarter of 1852, Russell's accounts, now in my possession	41 25
Also for credit voucher No. 1, for improvement of the Arkansas river, now in my possession	20 00
Total amount of receipts, as per account current of J. W. Russell, for month of July, 1853, now in my possession.	18,307 15

EXPENDITURES.

Under appropriation for improvement of the Mississippi	$9,536 20
Do do Arkansas	4,237 45
Do do Missouri	4,235 94
Total amount expended July 26, 1853	18,009 59
Balance still remaining in the hands of J. W. Russell, agent	$297 56

The agency of John W. Russell in completing the work of construction, equipment, and outfit of the several snag-boats, all of which were commenced and prosecuted under his direction, was deemed not only desirable but indispensable during the entire progress of the work, and was accordingly continued by my direction to the date last above mentioned. (See Appendix, Doc. I.)

Subsequently to that date, Captain Russell has been employed as my assistant in collecting and settling the outstanding claims, from which the settlement of his accounts, as shown above, has been effected to the full extent practicable; all of which is believed to be in accordance with instructions from the Topographical bureau.

The impediments in the way of a full and final settlement of his accounts appear to be of the following import, viz:

1. Agreeably to my understanding, the compensation to be allowed for his services as assistant, from the expiration of his agency about the end of July till the final settlement of his accounts should be effected, was $5 per day; whereas Captain Russell is now of opinion that the salary allowed him as United States agent should be continued to the present time.

2. Captain Russell is of the opinion that he is entitled to an allowance *for office rent* during the period of his services thus protracted.

3. That he is also entitled to an allowance for clerk hire during the same protracted period.

4. Moreover, his clerk, who officiated as clerk for this office from the 10th May last till about the middle of August, at the stipulated rate of $1,200 per year, seems to expect an extra compensation of about $2 50 per day for the same period, on account of his services as clerk for Captain Russell, on the plea of his having been employed in the latter capacity *out of office hours.*

These allowances, in view of the instructions I have received from the Topographical bureau and War Department, are regarded by me as extra-official, and of course cannot be allowed without express instructions from the departments above mentioned.

The accounts rendered by Captain Russell are, of course, defective to the extent above implied, which also includes a balance of $297 56 still in his hands, and remaining to be accounted for by him.

8. *Disposition made of the snag-boats.*

As already intimated, the light-draught twin snag-boat No. 5, which was commenced under the direction of J. W. Russell, and completed and furnished for service by C. A. Fuller, esq., after having served to great advantage in removing snags, wrecks, &c., from the Ohio above the falls, was compelled to relinquish operations and retreat to this place, where she arrived in the latter part of July, and has remained in port ever since, waiting for a rise of the river sufficient to convey her across the falls. Her detention thus occasioned has afforded an opportunity to introduce sundry alterations in her arrangements, which were deemed necessary to her efficient and successful operation, and which are now in progress, and will probably be completed prior to the time of the rise hoped for.

Snag-boat No. 1, under the command of Captain H. R. Day, and No. 3, under the command of Captain N. M. Ferguson, were despatched for service on the Missouri; and snag-boat No. 2, under the command of Captain Thomas Riddle, and No. 4, under the command of Captain H. Fendren, were despatched for service on the Arkansas river. A circular, containing instructions for the guidance of these officers, together with a copy of the printed rules and regulations, was furnished for the use and information of each captain. A copy of the circular is herewith furnished. (See Appendix, Doc. K.)

The four snag-boats mentioned in the preceding paragraph left the harbor of Dunkirk, about four miles below Louisville, on the 29th of July. No. 2 grounded on a bar at French island, 150 miles below the falls, where she remains to this time, waiting for a rise of the river sufficient to raise her from the bar; while the other three boats passed all the shoals of the lower Ohio without serious difficulty, and proceeded to their respective points of destination.

By a report from Captain Fendren, the snag-boat No. 4, under his command, grounded on a bar in the Arkansas, about 25 miles above the mouth of that river, on the 22d ultimo, and must, in consequence, remain inactive whilst in that condition.

The dredge-boats *having been completed* and fitted for service, viz:

dredge-boat No. 1, under the direction of J. Barney, esq., and No. 2, under the direction of C. A. Fuller, esq., were assigned to appropriate duties—the former in dredging the harbor of Dubuque, and the latter in opening a low-water channel between Cumberland island and the Kentucky shore of the Ohio. No. 1 commenced work on the 1st of July, and No. 2 in the latter part of the same month.

Whenever the dredge-boats can be spared from the localities at which they are now operating, one or both of them will be assigned to service in improving the Illinois. The entire improvements in that river are to be effected almost exclusively by the use of dredge-boats.

9. *Improvement of the harbor of Dubuque, of the rapids of Upper Mississippi, and of the Illinois river.*

As before estimated, operations in relation to these several improvements have already been commenced. The instructions given in reference to the survey of the rapids are presented in the Appendix. (See Doc. F.) Those relating to the improvement of the Illinois are also appended to this report. (See Appendix, Doc. L.)

It is proper to observe, in this connexion, that the rapids of the upper Mississippi have been arranged under two distinct agencies, viz: Into the agency for Rock Island rapids, which has been confided to J. Barney, esq.; and the agency for the Des Moines rapids, which has been confided to Major J. G. Floyd, both by special appointment from the War Department. In accordance with this arrangement, the appropriation for the improvement of the rapids of the upper Mississippi will be called for under two distinct heads, corresponding to an equal division of the appropriation between the two agencies, unless otherwise directed by the War Department.

The improvement of the Illinois river constitutes a separate agency, and has been conferred on George A. Dunlap, esq., and Major G. W. Long—the former to serve as disbursing agent, and the latter as engineer for the improvement.

10. *Estimated probable cost of prosecuting the several improvements during the current fiscal year.*

Under this head will be included an estimate of the cost of works in progress at the commencement of the current fiscal year, the probable cost of their prosecution during the year, the unexpended balances on hand at the beginning of the year, and the balances likely to remain for application at the close of the current year; all of which will be treated of in the following order:

The annual period during which the snag business can be prosecuted to advantage may be estimated at nine months. During the residue of the year—viz: three months—the western rivers are generally too much swollen to admit of any operations in removing obstructions.

Accordingly, the showing under this head will embrace a period of nine months for the active operations of the snag-boats, and of three months during which the boats will be laid up for safe-keeping and repairs, and will cover the annual cost of the operations, custody, and

repairs of the snag-boats, the estimated probable cost of which is as follows, viz:

The estimated annual cost of working five twin snag-boats, at $24,500 per year for each, all expenses included, is....	$122,500
The annual cost of working a dredge-boat for a period of six months in each year, and of the custody and repairs of the same during the residue of the year, may in like manner be estimated at $6,000 for the former, and $1,500 for the latter period, amounting per year to.....	7,500
Hence the estimated annual cost of working two dredge-boats, at $7,500 per year, for all expenses included, is....	15,000

To the foregoing outlays must be added the expenses incident to the superintendence and management of all operations relating to western river improvements, including office rent, clerk hire, &c., &c., which may be estimated as follows:

Rent of headquarters of western river improvements, consisting of one room for superintendent, one room for agent of the Ohio, one room for drawings, one room for clerks, and one room for storage of instruments, &c.....	$420
Fuel for four rooms.....	125
Hire of two clerks for headquarters.....	2,000
Commutation for fuel and quarters for superintendent and one military assistant.....	804
Contingencies, including stationery, postage, &c.....	651
Total.....	4,000

The amount likely to be expended on the improvement of the Ohio river, including Cumberland dam, during the current fiscal year, will probably absorb the entire appropriation for those objects.

The appropriation for the harbor of Dubuque, also, is likely to be absorbed during the current year, leaving the improvement incomplete.

The improvement of the rapids of the upper Mississippi, when the surveys of the same shall have been completed, will be treated of under two distinct heads, viz: the improvement of the Des Moines rapids, and the improvement of Rock Island rapids; Major J. G. Floyd having been duly appointed agent for the former, and J. Barney, esq., for the latter. It is, moreover, contemplated to divide the appropriation for this improvement into two equal parts, viz: $50,000 for the former, and $50,000 for the latter—less in both cases by the cost of the preliminary survey. With respect to the encroachments likely to be made on the appropriation during the current year, very little can be known till the works of improvement shall have been contracted for.

We shall assume, however, that one-third of the appropriation will have been absorbed within the current fiscal year, viz: $33,333 33⅓; leaving a balance of $66,666 66⅔ for the next fiscal year; or, for the Des Moines rapids, $33,333 33⅓, and for Rock Island rapids, $33,333 33⅓.

With respect to the improvement of the Illinois river, also, very little can be anticipated in regard to its progress or duration till the work of dredging shall *have been commenced,* which is expected to take

place before the close of the present low-water season. Of the priation for this improvement, one-half is likely to be expended the current year, viz: $15,000; leaving an equal sum for expe during the ensuing fiscal year.

The subjoined tabular synopsis will show the balances of the appropriations on hand at the beginning of the current fiscal ye probable amount of expenditures under each appropriation du year; and the corresponding balances likely to remain on hand each appropriation, at the end of the current fiscal year.

Synopsis for the current fiscal year ending June 30, 1854.

Object of appropriations, approved August 30, 1852.	Unexpended July 1, 1853.	Expended during current fiscal year.	Une July
Construction of snag-boats and dredge-boats.	$3,970 82	$3,970 82	.....
Improvement of the Ohio, including Cumberland dam	82,152 13	82,152 13	.....
Improvement of the Mississippi	73,178 19	67,367 24	$
Improvement of the Missouri	32,523 62	29,938 69	
Improvement of the Arkansas	32,523 62	29,938 69	
Improvement of the Illinois	29,000 00	15,000 00	1
Improvement of Des Moines rapids	49,000 00	16,666 66	3
Improvement of Rock Island rapids	49,000 00	16,666 66	3
Improvement of harbor of Dubuque	5,629 33	5,629 33	.....
Total	356,977 71	267,330 22	8

The foregoing synopsis shows the sums likely to be expended the current fiscal year, and covers the probable cost of working th boats and dredge-boats, and all allowances for travel, transpo clerk hire, office rent, commutation of quarters and fuel, &c., &

With respect to the operations that must be prosecuted by m the snag-boats and dredge-boats, it is proper to observe, in this that this cannot be confined to any particular run or locality, the same time be prosecuted with due diligence, during the ent sons or periods annually accruing, and appropriate to such ope For example:

The vernal or spring floods of the Ohio and Arkansas rivers earlier than those of any other of the western rivers above me and of course these rivers are susceptible of being operated upo earlier date in the spring, when none of the other rivers will a operations, by way of removing obstructions to their navigatio

The vernal floods of the Mississippi and Illinois usually subs the first of June, when the removal of snags in the former, a process of dredging in the latter, may be commenced.

The summer floods of the Missouri generally occur in the m July, and the business of removing snags and other obstructio its channel may be commenced in the latter part of that mont prosecuted during a period of about two months.

On the Mississippi the snag business may be prosecuted ar

without interruption, from the latter part of July to about the first of March, during a period of about eight months.

The process of dredging may be carried on annually in the Ohio, Illinois, and upper Mississippi, during an aggregate period of about six month in each year, viz: from about the middle or last of June to the middle or last of December.

From the views presented in this report generally, and from the foregoing remarks particularly, it is obvious that specific appropriations for the improvement of the several rivers cannot be properly made. I would accordingly suggest that a general appropriation be made for the whole, with a special provision that a specific sum shall be held in reserve for the improvement of each river, with the understanding that the sum thus reserved shall be applied exclusively to the improvement of the river for which it is reserved, within the year for which the appropriation is made, if practicable; but if otherwise, that it be retained for the improvement of the same river during the ensuing year.

Among the reasons for this suggestion, it may be urged that the stages of water in the different rivers are so variable, that the period for operations in one may prove too limited for the expenditure of the entire appropriation designed for its improvement; while the period for operations on another may be sufficiently protracted for the expenditure of its entire appropriations. Moreover, the removal of the snag-boats and dredge-boats from one river to another, in order to keep them in service during the season appropriate for their operations, will be likely to occasion embarrassment and confusion in any system of accounts that can be adopted under specific appropriations; while under a general appropriation, with specific provisions, the system would be far less complicated, and equally conducive to the accomplishment of all the objects of the appropriation.

11. *Estimate cost of continuing the same improvement during the fiscal year beginning July* 1, 1854, *and ending June* 30, 1855.

Under this head will be presented a synopsis similar to that given under the preceding general head, which will embrace the amounts deemed needful to the accomplishment of the several objects embraced in the synopsis alluded to, and for which new appropriations will be required.

The synopsis will exhibit the probable amount required for each object during the ensuing fiscal year; the unexpended balances likely to remain on hand at the close of the current fiscal year on account of each object; and the new appropriations required for the prosecution of each object.

In this connexion it should be observed, that the snag-boats recently constructed are not well adapted to efficient operation in the Arkansas, in low-water stages, and that they are equally inapplicable to the removal of obstructions in the Ohio and Missouri rivers in similar stages;

light-draught single hull snag-boats are indispensable in such cases, and each light-draught snag-boat should be accompanied by a machine-boat of proper construction, for operation at the margins of the channel, for the purpose of removing obstructions inaccessible even to light-draught snag-boats in low stages of the river.

Accordingly, I shall include in the synopsis an estimate of the probable cost of two light-draught snag-boats, at $15,000 each, and two machine-boats, at $2,500 each; which is deemed sufficient to cover not only the cost of construction, but that of the equipment of each boat of each class mentioned.

The numerous sandy shoals of the rivers in question, especially of the Ohio, Illinois, and upper Mississippi, are deemed susceptible of great improvement by the use of dredge-boats, in deepening and widening the channels across them. The two dredge-boats now in service are obviously incapable of performing all the service required in this way. Hence it is thought advisable and proper to include in the synopsis an estimate for the construction of an additional dredge-boat.

Synopsis for the ensuing fiscal year.

Object of appropriations for fiscal year beginning July 1, 1854, and ending June 30, 1855.	Estimates for ensuing fiscal year.	Balances from current fiscal year.	Appropriat'ns for ensuing fiscal year.
2 light-draught snag-boats, at $15,000, complete	$30,000 00		
2 machine-boats, complete, at $2,500	5,000 00	.....	$55,000 00
1 dredge-boat, complete	20,000 00		
Improvement of the Mississippi river	90,000 00	$5,810 95	84,189 05
Improvement of the Arkansas river	40,000 00	2,584 93	37,415 07
Improvement of the Missouri river	40,000 00	2,584 93	37,415 07
Improvement of the Ohio, including Cumberland dam	90,000 00	.....	90,000 00
Improvement of the Illinois river	30,000 00	14,000 00	16,000 00
Improvement of the Des Moines rapids	50,000 00	32,333 34	17,666 66
Improvement of the Rock Island rapids	50,000 00	32,333 34	17,666 66
Improvement of the harbor of Dubuque	15,000 00	.....	15,000 00
Contingent expenses of all kinds	.....	.....	4,000 00
Total amount required for ensuing fiscal year	.....	.....	374,352 51

From the foregoing synopsis, it appears $374,252 51 will be required for the prosecution of the several improvements now in progress on the western rivers; which amount, for the sake of round numbers, may be varied and arranged in a manner to cover all contingencies, and in the following order, viz:

For the construction of two light-draught snag-boats, two machine-boats, one dredge-boat, and four mud-scows	$55,000
For improvement of the Mississippi river	84,000
For improvement of the Missouri river	40,000
For improvement of the Arkansas river	40,000
For improvement of the Ohio river, including Cumberland dam	90,000
For improvement of the Illinois river	16,000
For improvement of the Des Moines rapids	18,000

For improvement of the Rock Island rapids	$18,000
For improvement of the harbor of Dubuque	15,000
Amount required for the ensuing fiscal year	376,000

In conclusion, I take leave to inform you that this report would have been prepared and forwarded at an earlier date, but for the sudden and unexpected withdrawal of my principal clerk at the time of its commencement, and the late date at which the accounts of J. W. Russell, late agent for the construction of the snag-boats, &c., for the month of July last, were rendered at this office.

Also, that the accounts last mentioned are now in my possession, and will be forwarded in due time to the Topographical bureau, with such remarks thereon as the case seems to call for.

Very respectfully, sir, your obedient servant,

S. H. LONG,

Lieut. Col. Top. Eng'rs, Supt. Western River Improvements.

Col. J. J. ABERT,

Chief Topographical Engineers, Washington, D. C.

DOCUMENT A.

Report of Lieut. Warren on the survey of the Mississippi delta.

OFFICE WESTERN RIVER IMPROVEMENTS,
Louisville, June 8, 1853.

SIR: In obedience to your instructions of June 6, I have the honor to present the following as a statement of the present condition of the portion of the drawings of the delta survey placed in my charge, and the assistance rendered me in executing them.

As a preliminary, I will present a short description of the surveys to which they relate; their condition when placed in my charge, and the manner in which I have been employed under your orders.

Nature and extent of the surveys.

The notes taken under the direction of Captain Humphreys were of three kinds, viz: topography, levels, and hydrography of the Mississippi river, its banks and vicinity from the mouth of Red river to New Orleans; including also series of observations on the rise and fall of the river at several points between Lake Providence and Port St. Philip, examinations at the Balize, &c.; the notes of which are in the possession of C. G. Forshey.

The topography is mainly on the right bank, from Red river to Baton Rouge, the floods having prevented operations on the left bank after getting three miles below Raccourci cut-off. From Baton Rouge down both banks of the river were surveyed, and offset lines were run whenever necessary. A line was also run from Mississippi river to Lake Borgne, at a point about 12 miles below New Orleans. The whole amount of line measured, including triangulations, was about 513 miles.

The levels were taken continuously over the whole distance just mentioned, but the tests made between Baton Rouge and New Orleans showed discrepancies, and the whole work will need reviewing before accurate calculations can be based thereon.

The hydrography was greatly interrupted by the flood, and by currents much swifter than we had been led to expect or were prepared to stem, so as to make accurate transverse sections of the river. Velocities were measured at high water at all necessary points within the limits of the topographical survey, and it was intended to make transverse sections at these points. In many instances this was prevented by the appropriation being exhausted. Hence the results expected from this portion of the survey cannot all be obtained.

Condition of drawings, December, 1850..

When I reported for duty at his office, December 15, 1851, the main line of topography had been plotted by J. Bennett, civil engineer, or *under* his direction, from Baton Rouge to New Orleans, with the exception of one sheet in the vicinity of Bonnet Carré and one at Carrolton.

The line surveyed had simply been plotted (no small operation) and put in red ink, and about one sheet of topography pencilled in; the work done occupying fourteen antiquarian sheets, on a scale of one ten-thousandth, ($\frac{1}{10000}$.)

The level notes had been plotted by K. Ford, civil engineer, from Red river down to station 458,000, about 85 miles, to a scale of $\frac{1}{10000}$.

The hydrography had been neatly plotted under direction of G. C. Smith, civil engineer, at Philadelphia, and on various scales; but all of the drawings were more or less incomplete.

Personal employment at Louisville.

From December 15, 1851, to April 13, 1852, in copying various papers about the office, and in arranging the correspondence relating to the survey, and copying the same in a book of records. From April 13 to October 15, in examining and plotting the notes, during which time I had a leave of absence for sixty days. From October 15 to January 1, 1853, was wholly engaged in assisting in making drawings, &c., for the board on the improvement of the falls of the Ohio. From January 1 to March 9, I was again employed on the delta drawings, At this last date I was ordered to New Orleans, to dispose of the public property, (see my communication of April 13,) and on my return was assigned to duty as an assistant in the improvement of the western rivers.

During the above period, I was employed about seven months on the drawings of the delta survey; in which time, besides some other office duties, I plotted the work from Red river to Baton Rouge, and finished it in pencil—one sheet was also put in ink; examined the entire topography; plotted sheets between Baton Rouge and New Orleans, and sheets of offset lines; and made an abstract of the notes, in which are noted all discrepancies found anywhere in the work, and to which I must refer for an exact and detailed account of the drawings and notes.

The sheet No. 1, near the mouth of Red river, contains several disagreements, and, as this is the point where the parties commenced work, it might be well to have it resurveyed. In sheet No. 20 a discrepancy of 300 feet was found, which is the most serious far that has been found anywhere in the topography.

The time occupied in plotting was very great; to insure accuracy and make argument at the triangulations, some sheets had to be plotted six times, and always three or four times.

Assistance received.

During a portion of the time I was at work upon the drawings I was assisted by G. F. Fuller, civil engineer, who executed in pencil twelve of the sheets, from Baton Rouge to New Orleans. For the nature and amount of labor performed by Lieut. Abert, I can only refer to his report of May 14, 1853.

Present condition of the drawings.

The entire notes of topography have now been plotted on antiquarian sheets, to a scale of $\frac{1}{10000}$, (with the exception of one sheet at Carrollton, and about six miles of the line down Bayou Plaquemine,) and the surveyed lines put down in red ink, with the exceptions mentioned, and one other that has the surveyed line simply in red ink. All the details of topography have been executed in pencil, and occupy twenty-nine antiquarian sheets.

There remains about one month's work for one person to complete the topography in pencil. Four-fifths of the level notes (about 300 miles) remain to be worked up, and about three months' work on the hydrography.

After this is done, it would probably occupy one man fifteen months to ink, letter, number, &c., the different portions of the work, if done with the same care I have used in plotting the topography.

The intention of Captain Humphreys was to have the drawings of $\frac{1}{10000}$ as the finished maps of the survey; and they have been made with the care and attention which such require.

They were to contain the whole of the data derived from operations of every kind, many portions of which are still incomplete. As long as the drawings remain in pencil, alterations can be made without injury to the sheet; whereas, if inked, a change makes it necessary to repeat the whole.

Captain Humphrey says, in his letter to J. K. Ford, August 25, 1851: "I prefer that the finished drawings should be put in pencil only for the present, as there is a certain method of inking the shore-lines, putting in the topography, foliage, lettering, figuring, &c, which I prefer giving personal instructions about. It will be well to take some memoranda of discrepancies, as I shall wish to examine the work thoroughly and minutely. It has been my intention, from the first, to have the levels run over a second time entirely, or at least on one side of the river, with elaborate transfers from one side to the other, at regular intervals."

Now, it is well known to be of the greatest importance to the discussion of the subject of outlets and cut-offs, in their relation to overflow, that the *level notes*, giving the slope of the water's surface, should be of the most accurate description. Captain Humphrey's instructions were to use the same care as in canal surveys; still the discrepancies before mentioned exist, and it is necessary to have this portion of the work revised. The sooner it is done the less expensive will be the revision. Bench-marks were made at least every mile, and will be convenient to test upon whenever they can be found.

I think it is but just to those employed in levelling to add, that they were as careful as men could be, under the circumstances. The instruments were much of the time imperfect, and the great heat of the sun made observing painful to the eyes, and produced refraction sufficient to make the target appear to vibrate. Under all these disadvantages, they frequently had to level over five and six miles a day.

The topographical work seems to have been very accurately per-

formed, but in several places is incomplete, according to the original design, and the parts need connecting together.

I would, therefore, respectfully recommend that some person be authorized to complete the necessary surveys as soon as the next autumn weather will permit, and the drawings be retained in their present condition until a decision is made concerning future field operations on the survey.

G. K. WARREN,
Lieutenant Topographical Engineers.

Lieutenant Colonel S. H. LONG,
Corps Top. Eng'rs, Superintendent Western River Improvements.

DOCUMENT B.

Report on condition of marine hospitals.

OFFICE WESTERN RIVER IMPROVEMENTS,
Louisville, June 1, 1853.

SIR: In view of my relation to the marine hospitals formerly committed to my charge, of the attitude in which I stand with respect to the completion of the works pertaining to their construction, I feel it my duty to submit the following statements and remarks on this subject:

The appropriations that have been made by the 32d Congress, within the years 1852 and 1853, on account of the construction of said hospitals, and the unexpended balance of the same still remaining, to be as follows:

For the hospital at Louisville, appropriated Aug. 31, 1852.			$2,000 00
Do	do	at Paducah.....do.....do....do..	2,000 00
Do	do	at Napoleon.....do.....do....do..	2,000 00
Do	do	at Natchez.....do.....do....do..	2,000 00
Do	do	at Louisville, appropriated March 3, 1853.	.....
Do	do	at Paducah.....do.....do....do..	.....
Do	do	at Napoleon.....do.....do....do..	4,000 00
Do	do	at Natchez.....do.....do....do..	4,000 00

The amounts and balances remaining unexpended at the end of the first quarter of 1853—viz. April 1, 1853—on account of the construction of the same hospital, are as follows:

On account of the hospital at Louisville, April 1, 1853.....			$1,098 32
Do.....	do.....	Paducah.....	2,007 59
Do.....	do.....	Napoleon.....	4,140 29
Do.....	do.....	Natchez.....	4,035 37

The disposition to be made of the several sums is now respectfully submitted to the Treasury and War Departments, through the Topographical bureau.

The condition of the several hospitals on the 1st September, 1852, and the progress made *towards their completion*, also the works pertaining *thereto and remaining to be done*, have been explained with

sufficient clearness and fullness in my annual report of that date, and in other documents therein referred to. To these accounts I beg leave to refer for any desired information on these subjects.

Since that date (September 1, 1852) the draining of privy sinks, the construction of hot-air furnaces, and the tubing, &c., for supplying hot water to the bath-rooms of the Louisville hospital, have been effected at a cost of about $1,000, more distinctly stated in my accounts for the fourth quarter of 1852 and first quarter of 1853, already forwarded.

With respect to the other hospitals, very little expense has been incurred, except on account of the custody of the hospital at Napoleon, since the date of my annual report of September last.

In the event of my resuming the work of completion still remaining to be done in connexion with the several hospitals above mentioned, I take leave to subjoin the following estimate and requisitions for funds necessary on account of the same respectively, to wit:

For the marine hospital at Paducah, from appropriation approved August 31, 1852	$2,000
For the marine hospital at Napoleon, from appropriation approved March 3, 1853	2,000
For the marine hospital at Natchez, from appropriation approved August 31, 1852, and March 3, 1853	2,000
For the marine hospital at Louisville, being the unexpended balance already in my possession from the appropriation approved August 31, 1852	1,098 32

Should it be deemed proper that I continue in the direction of the works above mentioned, or either of them, I take leave to request that the sum or sums corresponding thereto be remitted to my address at this city.

S. H. LONG,
Lieutenant Colonel Topographical Engineers,
Superintendent Western River Improvements.

Col. J. J. ABERT,
Chief Topographical Engineers, Washington, D. C.

DOCUMENT C.

Report in reference to the Pacific railroad.

WASHINGTON, *March* 24, 1853.

SIR: In accordance with your instructions, I take leave to submit the following project of surveys for ascertaining the practicability of routes for railroads across the Rocky mountains, and connecting the coast of the Atlantic with that of the Pacific ocean, proper to be made in conformity to an act of Congress appropriating $150,000 for that purpose.

In view of the vast region to be traversed, the multiplicity of routes *claiming attention*, and the intricacy of numerous passes, on the practicability of which depends the possibility of a railroad communication

across the region in question, the amount of the appropriation, and the duration of the surveys, as contemplated by the law, are obviously too limited to admit any investigations beyond a mere cursory reconnoissance and hasty preliminary survey of the most intricate, difficult, and formidable passes through which a railroad, spanning the continent within the limits of the United States, must be carried.

The practicability of railroads between the Mississippi and the Atlantic ocean has already been developed by surveys in numerous instances, and is susceptible of being confirmed by future surveys in other instances far more numerous.

Westward of the Mississippi, several routes for railroads leading in various directions across the States of Missouri, Arkansas, and Louisiana, have also been surveyed and found practicable for railroads, on terms more or less favorable. But the broad region westward of these States, and spreading far away to the easterly base of the Rocky mountains, has been recently traversed in a few directions only, without instrumental surveys of a character to indicate the position or directions of the most practicable routes. The region, however, is entirely destitute of high mountains, and presents a surface generally adapted to the reception of railroads in almost every direction except in the vicinity of the Rocky mountains, where insulated tracts of table lands, of greater or less elevation and extent, are frequently to be met with, especially to the southward of the Arkansas river.

From the 43d degree of north latitude to the sources of the Pecos river, in latitude about 34½°, the region under consideration is bounded on the west by basal slopes of the Rocky mountains; thence southwardly to the 31st degree of north latitude, it is separated from the mountains by the Pecos river; and thence to the Gulf coast by the Rio del Norte. To the eastward of the limit thus defined, the region may be traversed by practicable routes to the Missouri and Mississippi rivers, in positions more numerous than the integral parallels of latitude by which it is intersected.

With respect to the general altitude of this vast district of country, and its general declivities from west to east and from north to south, it should be observed that the barometrical measurements show that its altitude above tide at the base of the mountains, in latitude 42°, or at the points where the tributaries of the Platte issue from the mountains, is about 5,000 feet, and at the same latitude on the Missouri river is about 1,000 feet; that its altitude at the mountain base, in latitude 36°, or the point at which the tributaries of the Arkansas issue from the mountain, is about 4,000 feet, and at the Mississippi is about 275 feet in the same latitude. Hence its average aggregate of dip or declination eastward is 3,860 feet, or about 4¾ feet per mile; and its average of declination southward is 1,000 feet, or about 2½ feet per mile. The elevation of the region in latitude 31°, where the streams all flow in a southerly direction, varies according to the following barometrical measurements at the different points, viz:

At the Del Norte, 3,700 feet above tide.

At the summit between Del Norte and Pecos, 4,600 feet above tide.

At the Pecos river, *266 feet above.*

At various other points eastward of the Pecos river, the elevation

varies from 1,000 to 3,000 feet, declining eastward as we approach th Mississippi river.

The region of the Rocky mountains stretching from 30 to 43 degree of north latitude, embracing the vast mountain ridge or Back-bon avoiding the waters that flow into the Gulf of Mexico from those of th Pacific ocean and the Gulf of California, next claims attention.

It has a length from south to north of about nine hundred miles, an a width from east to west varying from one to two hundred mile The altitude of its ridges, summits, and peaks, varies from 5,000 t 17,000 feet above tide; the altitude first mentioned being the height the main summit at the head of the principal sources of the Gila rive and that last mentioned, viz: 17,000 feet, being the estimated heig of Long's peak, in latitude 40¼ degrees north.

It is worthy of particular notice that the eastwardly base of th Rocky mountains, in latitude 42 degrees, has the same elevation abo tide as the summit of the main Back-bone ridge, in latitude 32 degree

This anomaly in the relative heights of the Rocky mountains different points has an important bearing upon the selection of th most favorable pass for the transit of a railroad across the mounta region.

From what has been advanced, it is obvious that, wherever the mo favorable pass for crossing the Back-bone mountain may be found, railroad leading through it, and extending eastward to the easterly ba of the mountain range, may be conducted thence to the Mississip without serious difficulty.

The localities proper to be examined and surveyed, for the purpo of ascertaining the most favorable pass for a railroad across the mou tain region, may be enumerated and designated as in the followi tabular synopsis:

Table showing the number, designation, latitude, longitude, and proxim height above tide, of the several passes proper to be surveyed across t summit of the main dividing ridge of the Rocky mountains.

No.	Designation of passes.	N. latitude.	W. longitude.	Prox. height.
		° ′ ″	° ′ ″	*Feet.*
1	South Pass	42 24 32	109 26 00	7,220
2	Stansbury's Pass	41 08 02	105 24 11	7,200
3	Coochatopa Pass	38 10 00	106 15 00	8,000
4	North Zuñi Pass	35 30 00	108 35 00	7,000
5	South Zuñi Pass	34 50 00	108 25 00	7,000
6	Cook's Pass	32 30 00	108 30 00	5,000

The statements in this table have been compiled by Mr. R. H. Ke from observations and barometrical measurements of Colonel Frémo Captain Stansbury, Colonel Emory, and Colonel Graham.

It is apparent from the table that the three northerly passes designat *therein have* altitudes very considerably greater than those of the thr

outherly passes, and that the most southerly pass is lower by 2,000 to 4,000 feet than those further north.

Hence, if we admit that every rise of twenty feet is equivalent to 1 mile of horizontal distance, (which is undoubtedly true with respect to the simple economy of transportation,) we shall find that a route through Cook's pass (the routes being relatively equal in other respects) will be virtually shorter by 100 miles than a route through either of the Zuñi passes, by 100 miles than a route through either of the northerly passes, and by 150 miles than a route through the Coochatopa pass. From the several passes designated in the table, careful examinations and instrumental surveys, if necessary, should be made, with the view of determining the character and practicability of routes extending eastward quite to the base of the mountains in that direction.

Similar examinations and surveys should be extended westwardly from the same passes, for the purpose of determining the most favorable localities and directions by which practicable routes may be prolonged indefinitely towards the Pacific ocean.

Thorough and adequate examinations of all the localities that ought to be explored in order to discover *a practicable route*, and more especially to ascertain the *most favorable route*, will undoubtedly require a much larger expenditure, and a much more protracted period, than those contemplated in the law of Congress making provision for the surveys in question, or for any other surveys that can be instituted for the same objects.

Of the region west of the Rocky mountains, extending from the Gila westwardly to the Great Desert basin, whence there is no outlet through which its waters can escape to the ocean, and bounded westwardly by the Sierra Nevada and the Gulf of California, very little is known with respect to the practicability of routes for railroads leading through it in any direction. Extensive groups of high and rugged mountains are said to be presented in various parts of the region, while insulated table lands of greater or less extent and elevation are said to prevail over large portions of it. The plateaus are bounded by abrupt slopes and precipices, and separated from each other in some instances by deep and narrow chasms, and in others by valleys and plains of great extent. The lower grounds are traversed by water-courses, through which the rains that fall upon the surface find their way to the principal streams; all of which run westward, and are discharged into the Gulf of California through the channel of the Colorado. The considerable tributaries of this great river have their sources in the main chain of the Rocky mountains, whence they flow through deep cañons or chasms, bounded by insurmountable precipices of great height, which render the passage of railroads through their immediate valleys totally impracticable.

To the general character of the mountain streams and their valleys, as above represented, there may be (and indeed are said to be) some few exceptions. Ravines or valleys of moderate declivity and gently sloped sides are supposed to occur on the westwardly slope of the main mountain, through which a practicable route for a railroad, with admissible gradient, may descend from some one or more of the mountain passes, and be continued *more or less* directly downward, till it

enters the low grounds at the bases of the insulated table lands before mentioned. Thence it may probably be extended, by courses more or less devious and winding, to Walker's pass, in the Sierra Nevada, at the head of the San Joaquin, or to Warner's pass, in the same mountain, in a direction towards San Diego, or downwards in the valley of the Colorado to the head of the bay of California.

From all accounts of travellers who have traversed this region, it is pretty evident that a route leading downward from the mountain summit, west of El Paso, to a point on the Gila below the cañons of that river, on its southerly side, is far more favorable for a railroad than any that can be found on its northerly side. At the point just designated, the route may cross the Gila and be continued northwestwardly towards San Diego, or northwardly towards the head of the San Joaquin.

In view of the prevailing dearth of information that now exists with respect to the nature, character, and aspect of this singular region, and especially in reference to the facilities presented by it for railroad communication, I would suggest that, while the survey of the main mountain passes are in progress, careful examination should be made by skilful and experienced engineers, to the uttermost practicable extent, for the purpose of ascertaining, with some degree of precision, the practicability of extending a route from each pass downwards quite to the point at which the cañons cease to present themselves.

Chasms or cañons of this character are said to occur on most if not all of the principal rivers of this region, and to extend downwards more than half the distance from the dividing ridge to the westerly limit of the region. On the Colorado they cease at the confluence of the Rio Virgin with this river, and on the Gila at a point 150 miles above its mouth, below its confluence with the river San Pedro.

The lofty mountain chain called the Sierra Nevada, which towers far upward into the region of perpetual frost, and stretches without interruption from Cape San Lucas to the Columbia river, next claims our attention.

The two lowest passes across this mountain are said to occur within the distance of about 150 miles of each other, and are distinguished by the names of Warner pass and Walker's pass, both of which are comparatively low depressions in the crest of the mountain. Warner's pass is situated at the distance of about 80 miles eastward of San Diego, and has an elevation of 3,013 feet above tide. Walker's pass is situated near the main source of the San Joaquin river, and has a probable elevation of about 4,000 feet above tide. The former is represented as exceedingly abrupt and rugged, especially on the westerly side of the mountain, while the latter is said to present gentle declivities on both sides. Both of the passes should be examined, and carefully surveyed: Warner's pass with a view of a railroad communication to the bay of San Diego, and Walker's pass with a view of a similar communication to the bay of San Francisco.

S. H. LONG,
Lieutenant Colonel Top. Engineers.

Col. J. J. ABERT,
Chief Top. Eng'rs, Washington, D. C.

DOCUMENT D.

Circular.

WASHINGTON, *April* 27, 1853.

SIR: I have the honor to inform you that by a recent order of the Hon. Secretary of War I have been assigned to the direction and superintendence of all works and operations relating to the improvement of the Ohio, Mississippi, Missouri, Arkansas, and Illinois rivers.

You are accordingly requested to prepare and submit, for my information at headquarters of western river improvements, in the city of Louisville, Kentucky, on or before the 10th day of May next, a full clear, and correct exposition of your proceedings in the public service, comprising a copy of your letter of appointment; a statement of all receipts and expenditures of public funds; of the public property under your charge; of the progress made under your directions in the works and operations of your agency, and of the nature and objects of the expenditures made by you, from the date of your appointment to the 1st of May next.

On receiving the information called for as above, I hope to have the ability to prepare and furnish such additional instructions as are proper and expedient in the further prosecution of the duties that have been assigned you.

S. H. LONG,
Lieutenant Colonel Topographical Engineers,
Superintendent of Western River Improvements.

To JOSHUA BARNEY, Esq., *for Dubuque, Iowa.*
C. A. FULLER, Esq., *for Ohio, including Cumberland dam, Louisville, Kentucky.*
CHARLES DAULTON, Esq., *U. S. agent, Jacksonville, Illinois.*
Captain J. W. RUSSELL, *Louisville, Kentucky.*

DOCUMENT E.

OFFICE OF WESTERN RIVER IMPROVEMENTS,
Louisville, Kentucky, May 25, 1853.

SIR: In conformity to your instructions of the 27th, directing my attention to the disbursements made and incurred by John W. Russell, agent for the construction of snag-boats, &c.; Joshua Barney, agent for harbor of Dubuque; and Charles A. Fuller, agent for Ohio river, including Cumberland dam, under appropriations for the improvement of western rivers, approved August 30, 1852, my investigations have been extended through the entire period of operations of the officers above mentioned, in so far as they come within the purview of the appropriations, and are embraced within the 4th quarter of 1852, and the 1st and 2d quarters of 1853.

The results of my investigation will be exhibited in the subjoined papers, containing *sundry statements and* explanations, showing the

arrangements, &c., deemed most advisable and proper for the purpose of distributing the expenditures under their appropriate heads of appropriations.

The papers, &c., above mentioned, are as follows, viz:

Appropriation for the improvement of the western rivers.

1. For improvement of navigation of Mississippi river below the rapids	$90,000
2. For improvement of Ohio, including the dam at Cumberland island	90,000
3. For improvement of Missouri river	40,000
4. For improvement of Arkansas river	40,000
5. Construction and repair of snag-boats, dredge-boats, discharging-scows, &c., for Mississippi, Ohio, Missouri, Arkansas, &c.	150,000
6. Improvement of Rock River (island) and Des Moines rapids of the Mississippi	100,000
7. Improvement of the Illinois river	30,000
8. For harbor of Dubuque, upper Mississippi	15,000
Amount of appropriations for western river improvements, August 30, 1852	555,000

The disbursements claiming attention have been made, and charged to the 1st, 2d, 3d, 4th, 5th, and 8th items of the foregoing list of appropriations, and have been applied mainly to the construction and equipment of five twin snag-boats, two steam dredge-boats, with mud-scows, &c.

The construction of four of the snag-boats was committed exclusively to John W. Russell, United States agent for the construction of snag-boats, &c.; while that of the fifth snag-boat, which is of a smaller class, has been accomplished, in part, under his direction, and completed under the direction of Charles A. Fuller, United States agent for the Ohio river, including Cumberland dam.

The construction of one of the dredge-boats, &c., was committed to the agency of Chas. A. Fuller, esq., and the other to that of Joshua Barney, esq., United States agent for the improvement of the harbor of Dubuque, &c.

The disbursements made, liabilities incurred, prior to May 10, 1853, on account of the several boats above mentioned, and the several agents by whom they were made and incurred, are as follows, viz:

By John W. Russell, agent for construction of snag-boats.	$154,051 87
By Charles A. Fuller, agent for Ohio river and Cumberland dam	27,965 32
By Joshua Barney, agent for harbor of Dubuque, &c...	20,044 96
Total	202,062 15

This aggregate amount has been drawn indiscriminately from the several items specially designated above—viz: from 1st, 2d, 3d, 4th, 5th, and 8th items of the appropriations—and applied in a similar manner to the objects of the appropriations prior to the date last mentioned, viz: 10th May, 1853.

SEPTEMBER 1, 1853.

The foregoing exposition relates to the affairs of western river improvements as they existed at the time when I entered on the duties assigned me, under existing "rules and regulations for the government of the officers, &c., employed on duties relating to the improvement of the western rivers," viz: on the 10th May last.

The returns then submitted were not sufficiently complete to enable me to do more than merely to devise and adopt a system of arranging the accounts relating to expenditures actually made, and liabilities incurred, under the several appropriations referred to.

By means of additional returns since received, I have been enabled to correct some few errors that have been detected in the amounts relating to expenditures, and especially in those relating to liabilities, and have amended and extended the schedules in conformity thereto.

The forms of the schedules, as originally prepared and submitted, have been retained; while the corrections required therein, and the additions made thereto, have given occasion for a very considerable enlargement and extension of all the schedules.

As now presented, the schedules exhibit a full arrangement of all expenditures actually incurred under the several appropriations mentioned in the 1st, 2d, 3d, 4th, and 8th items of the appropriation list before given, and include all outlays and expenditures that have been incurred prior to the close of the last fiscal year, ending June 30, 1853.

With respect to Schedule No. 3, in relation to the expenditures made under the direction of J. Barney, esq., his returns, which were before defective, are now complete, in so far as relates to the fourth quarter of 1852 and the first and second quarters of 1853.

In the third quarter of 1852, a small expenditure was made by Mr. Barney, amounting to $55 10 only, for which no vouchers have been received at this office. This amount, however, is chargeable entirely in the column of outfit and services.

The revised and amended schedules exhibit with entire accuracy the aggregate amounts expended under the direction of the several United States agents therein mentioned, prior to the 1st day of July, 1853, and are as follows, viz:

SCHEDULE No. 1.

Accounts of John W. Russell, United States agent for the construction snag-boats, &c., arranged in conformity to appropriations for the improvement of western rivers.

Year.	Quarter.	No. of voucher.	Object of appropriations and expenditures.	Expenditures.	Construction & repairs.	Equipment of boats.	Outfit, &c., including
1852	4th	1	Construction and equipment	$5,446 94	$4,112 45	$1,334 49	....
		2	Outfit	85 00	.....	.....	$8
		3	Construction and repairs	13 50	13 50	.....	....
		4 to 16	Construction, per contract	18,900 00	18,900 00	.....	....
		17	Outfit	3 85	.....	.....	
		18	....do	19 00	.....	.....	1
		19	....do	266 66	.....	.....	26
		20	....do	100 00	.....	.....	10
		21	....do	30 00	.....	.....	3
		22	Construction, per contract	6,000 00	6,000 00	.....	....
		23	Construction and repairs	5,125 04	5,125 04	.....	....
		24	Outfit	27 46	.....	.....	2
		25	....do	31 50	.....	.....	3
		26	....do	197 22	.....	.....	19
		27	....do	784 72	.....	.....	78
		28	(Suspended)	.....	.....	.....	....
		29	Outfit	1 35	.....	.....	
1853	1st	1 to 12	Construction, per contract	23,400 00	23,400 00	.....	....
		13 to 15	Construction, per contract	10,500 00	10,500 00	.....	....
		16	Construction and repairs	1,779 48	1,779 48	.....	....
		17	....do.....do....	2,505 87	2,505 87	.....	....
		18	....do.....do....	12,286 68½	12,286 68½	.....	....
		19	....do.....do....	3,581 80	3,581 80	.....	....
		20	....do.....do....	1,237 12½	1,237 12½	.....	....
		21 to 30	....do.....do....	630 80	630 80	.....	....
		31	Equipment	154 50	.....	154 50	....
		32	Outfit	36 50	.....	.....	3
		33	....do	300 00	.....	.....	30
		34	....do	200 00	.....	.....	20
		35	....do	250 00	.....	.....	25
		36	....do	625 00	.....	.....	62
		37	(Suspended)	.....	.....	.....	....
		38	Outfit	14 15	.....	.....	1
		39	....do	2 64	.....	.....	
			Improvement of the Mississippi.				
		1	Equipment	1,453 06	.....	1,453 06	....
		2	....do	3,345 79½	.....	3,345 79½	....
		3	....do	2,502 75	.....	2,502 75	....
		4	....do	1,328 67	.....	1,328 67	....
		5	....do	132 62½	.....	132 62½	....
		6	....do	541 55	.....	541 55	....

SCHEDULE No. 1—Continued.

Year.	Quarter.	No. of voucher.	Object of appropriations and expenditures.	Expenditures.	Construction & repairs.	Equipment of boats.	Outfit, &c., including services.
			Improvement of the Missouri.				
1853	1st	1	Equipment	$1,619 75½	.....	$1,619 75½	.....
		2	....do	975 75	.....	975 75	.....
		3	Equipment	711 92½	.....	711 92½	.....
		4	....do	303 21	.....	303 21	.....
		5	Outfit	300 00	.....	.....	$300 00
		6	Construction and equipment	295 92	$36 00	259 92	.....
		7	Equipment	15 00	.....	15 00	.....
		8	....do	417 22½	.....	417 22½	.....
		9	....do	25 00	.....	25 00	.....
			Improvement of the Arkansas.				
		1	Equipment	1,607 47½	.....	1,607 47½	.....
		2	....do	1,025 50	.....	1,025 50	.....
		3	....do	774 08	.....	774 08	.....
		4	....do	321 38	.....	321 38	.....
		5	....do	253 65	.....	253 65	.....
		6	Outfit	90 00	.....	.....	90 00
		7	Equipment	65 00	.....	65 00	.....
		8	Outfit	90 00	.....	.....	90 00
		9	Equipment	7 42	.....	7 42	.....
		10 to 11	Outfit	78 00	.....	.....	78 00
		12	Equipment	338 05	.....	338 05	.....
	2d	1 to 6	Construction, per contract	13,380 00	13,380 00	.....	.....
		7 to 10	Construction and repairs	5,474 55	5,474 55	.....	.....
		11 to 14	Construction, per contract	11,760 00	11,760 00	.....	.....
		1	Outfit	89 60	.....	.....	89 60
		2	Equipment	175 00	.....	175 00	.....
		3	Equipment and outfit	1,286 97	.....	643 48	643 49
		4	Equipment	131 75	.....	131 75	.....
		5	....do	38 93	.....	38 93	.....
		6	Outfit	98 60	.....	.....	98 60
		7	Equipment	48 12	.....	48 12	.....
		8	Outfit	56 20	.....	.....	56 20
		9	Equipment	195 20	.....	195 20	.....
			Improvement of the Mississippi.				
		1	Outfit	44 75	.....	.....	44 75
		2	Equipment	1,633 56	.....	1,633 56	.....
		3	Outfit	110 00	.....	.....	110 00
		4	Construction, equipment and outfit	1,420 32	300 00	560 16	560 16
		5	Outfit	171 40	.....	.....	171 40
		6	Equipment	170 96	.....	170 96	.....
		7	....do	47 82	.....	47 82	.....
		8	....do	48 15	.....	48 15	.....
		9	....do	270 19	.....	270 19	.....

SCHEDULE No. 1—Continued.

Year.	Quarter.	No. of voucher.	Object of appropriations and expenditures.	Expenditures.	Construction & repairs.	Equipment of boats.	Outfit, &c., including services.
1853	2d	10	Outfit	$625 00	.....	.....	$625 00
		11	....do	250 00	.....	.....	250 00
			Improvement of the Missouri.				
		1	Outfit	20 00	.....	.....	20 00
		2	....do	7 80	.....	.....	7 80
		3	....do	8 48	.....	.....	8 48
		4	Equipment and outfit...	537 50	.....	$268 75	268 75
		5	Equipment	1,420 45	.....	1,420 45	.....
		6	....do	47 82	.....	47 82	.....
		7	Outfit	34 62	.....	.....	34 62
		8	....do	33 75	.....	.....	33 75
		9	....do	4 80	.....	.....	4 80
				152,797 87	121,023 30	25,214 12	6,560 45

N. B.—In voucher No. 1 of the 4th quarter of 1852, the charge against the United States is $5,734 49
In credit voucher No. 2 of 1st quarter of 1853 is a credit for broken machinery of 287 55

The credit voucher deducted from charge as above leaves a remainder of 5,446 94

And this remainder is to be regarded as the true charge against appropriations for western river improvements, and is substituted therefor in this exhibit.

In voucher No. 23 of the 4th quarter of 1852, the charge against the United States is 5,771 91½
In credit voucher No. 1 of 1st quarter of 1853 is a credit voucher for "iron sold" of 646 87½

The credit voucher deducted from charge as above leaves a remainder of 5,125 04

And this remainder is to be regarded as the true charge against appropriations for western river improvements, and is substituted therefor in this exhibit.

SCHEDULE No. 2.

Accounts of Charles A. Fuller, United States agent for construction of snag and dredge-boats, arranged in conformity to appropriations for the improvement of western rivers.

Year.	Quarter.	No. of voucher.	Object of appropriations and expenditures.	Expenditures.	Construction & repairs.	Equipment of boats.	Outfit, &c., including services.
1853	1st	1	Outfit	$336 00	.....	.....	$336 00
	2d	1	Construction, per contract	980 00	$980 00	.....	.....
		2	Outfit	9 00	.....	.....	9 00
		3	....do	81 25	.....	.....	81 25
		4	....do	21 87	.....	.....	21 87
		5	....do	4 00	.....	.....	4 00
		6	....do	6 37	.....	.....	6 37
		7	....do	23 00	.....	.....	23 00
		8	....do	7 50	.....	.....	7 50
		9	....do	401 50	.....	.....	401 50
		10	....do	3 70	.....	.....	3 70
		11	Construction, per contract	1,000 00	1,000 00	.....	.....
		12	....do....do	980 00	980 00	.....	.....
		13	Equipment	317 27	.....	$317 27	.....
		14	....do	343 25	.....	343 25	.....
		15	Outfit	24 03	.....	.....	24 03
		16	....do	60 00	.....	.....	60 00
		17	....do	25 00	.....	.....	25 00
		18	....do	36 09	.....	.....	36 09
		19	....do	27 74	.....	.....	27 74
		20	....do	17 25	.....	.....	17 25
		21	Construction, equipment, and outfit	1,893 75	1,700 00	187 38	6 37
		22	Outfit	36 43	.....	.....	36 43
		23	....do	12 00	.....	.....	12 00
		24	Equipment	26 85	.....	26 85	.....
		25	Outfit	108 20	.....	.....	108 20
		26	....do	5 00	.....	.....	5 00
		27	....do	21 00	.....	.....	21 00
		28	....do	92 50	.....	.....	92 50
		29	Construction, per contract	980 00	980 00	.....	.....
		30	Equipment	41 30	.....	41 30	.....
		31	Equipment and outfit	232 20	.....	56 75	175 45
		32	Equipment	16 75	.....	16 75	.....
		33	Equipment and outfit	338 42	.....	89 65	248 77
		34	Construction, per contract	2,000 00	2,000 00	.....	.....
		35	....do....do	2,500 00	2,500 00	.....	.....
		36	Equipment and outfit	225 70	.....	197 50	28 20
		37	Outfit	361 03	.....	.....	361 03
		38	....do	66 26	.....	.....	66 26
		39	....do	136 28	.....	.....	136 28
		40	Equipment and outfit	11 75	.....	4 50	7 25
		41	Outfit	61 32	.....	.....	61 32
		42	Equipment	24 40	.....	24 40	.....
		43	Outfit	3 00	.....	.....	3 00
		44	Equipment and outfit	510 83	.....	50 65	460 18
		45	Outfit	240 40	.....	.....	240 40
		46	Equipment	30 00	.....	30 00	.....
		47	....do	1 45	.....	1 45	.....
		48	Outfit	540 00	.....	.....	540 00
		49	....do	*37 50*	.....	.....	37 50
		50	*Equipment*	*139 28*	.....	139 28	.....

SCHEDULE No. 2—Continued.

Year.	Quarter.	No. of voucher.	Object of appropriations and expenditures.	Expenditures.	Construction & repairs.	Equipment of boats.	Outfit, &c., including ser-
1853	2d	51	Outfit	$5 00	.....	.....	$5
		52	....do	20 50	.....	.....	20
		53	....do	16 75	.....	.....	16
		54	Construction, per contract	2,000 00	$2,000 00	.....	.....
		55	Equipment	417 59	.....	$417 59	.....
		56	Outfit	41 45	.....	.....	41
		57	....do	58 15	.....	.....	58
		58	....do	130 85	.....	.....	130
		59	Equipment	112 00	.....	112 00	.....
		60	Outfit	82 75	.....	.....	82
		61	....do	132 00	.....	.....	132
		62	Equipment	1,177 93	.....	1,177 93	.....
		63	Outfit	16 95	.....	.....	16
		64	Construction, per contract	1,800 00	1,800 00	.....	.....
		65	Equipment	29 12	.....	29 12	.....
		66	Construction, per contract	20 00	20 00	.....	.....
		67	Outfit	52 22	.....	.....	52
		68	....do	287 96	.....	.....	287
		69	....do	8 23	.....	.....	8
				21,807 00	13,960 00	3,263 62	4,584

SCHEDULE No. 3.

Accounts of J. Barney, United States agent for the construction of a dredge-boat, &c., arranged in conformity to appropriations for the improvement of western rivers.

Year.	Quarter.	No. of voucher.	Object of appropriations and expenditures.	Expenditures.	Construction & repairs.	Equipment of boats.	Outfit, &c., including services.
1852	3d	1	Construction	$22 50	$22 50		
	4th	1	Outfit	103 00			$103 00
		2	....do	230 00			230 00
1853	1st	1	Construction, per contract	1,000 00	1,000 00		
		2	Outfit	15 00			15 00
		3 to 5	Construction, per contract	2,880 00	2,880 00		
		6	Equipment	1,565 43		$1,565 43	
	2d	1	Construction, per contract	940 00	940 00		
		2	Equipment	14 20		14 20	
		3	....do	71 98		71 98	
		4	....do	1,440 00		1,440 00	
		5	Outfit	16 25			16 25
		6	Equipment	45 93		45,93	
		7	Outfit	76 02			76 02
		8	Equipment	463 94		463,94	
		9	Outfit	20 30			20 30
		10	Equipment	180 59		180 59	
		11	....do	233 98		233 98	
		12	....do	101 60		101 60	
		13	....do	22 07		22 07	
		14	Outfit	29 69			29 69
		15	....do	41 25			41 25
		16	Construction, equipment, & outfit	2,002 44	1,880 00	114 80	7 64
		17	Construction, equipment, & outfit	55 00	34 10	7 25	13 65
		18	Construction and equipment	4,058 10	3,455 17	602 93	
		19	Outfit	15 71			15 71
		20	Equipment and outfit	136 10		85 81	50 29
		21	Outfit	89 37			89 37
		22	Equipment and outfit	165 85		139 35	26 50
		23	....do.....do	105 03		47 11	57 92
		24	Equipment	41 85		41 85	
		25	....do	52 50		52 50	
		26	Construction	115 37	115 37		
		27	....do	39 00	39 00		
		28	Equipment and outfit	321 62		288 05	33 57
		29	Outfit	191 12			191 12
		30	Construction of scows	605 56			
		31	Outfit	32 50			32 50
		32	....do	377 50			377 50
				17,918 35	10,971 70	5,519 37	1,427 28
			Dubuque harbor.				
1852	3d	1	Outfit	32 60			32 60
	4th	1	....do	139 10			139 10
		2	....do	12 50			12 50
		3	....do	3 50			3 50
		4	....*do*	3 00			3 00

SCHEDULE No. 3—Continued.

Year.	Quarter.	No. of voucher.	Object of appropriations and expenditures.	Expenditures.	Construction & repairs.	Equipment of boats.	Outfit, &c., including services.
1852	4th	5	Outfit	$12 65			$12 65
		6	....do	230 00			230 00
1853	2d	1	....do	33 40			33 40
		2	....do	28 76			28 76
		3	....do	38 10			38 10
		4	....do	151 91			151 91
		5	....do	65 79			65 79
		6	....do	10 00			10 00
		7	....do	3 75			3 75
		8	....do	80 00			80 00
		9	Construction and repairs	33 39	$33 39		
		10	....do....do	40 79	40 79		
		11	Outfit	100 00			100 00
		12	....do	245 15			245 15
		13	....do	58 95			58 95
		14	....do	90 00			90 00
		15	....do	29 50			29 50
		16	....do	6 50			6 50
		17	....do	596 36			596 36
		18	....do	452 50			452 50
				20,416 55	11,045 88	5,519 37	3,851 30

Summary of Schedules Nos. 1, 2, *and* 3.

Schedule.	Summary recapitulation of the foregoing schedules.	Aggregate of expenditures.	Construction and repairs.	Equipment of boats.	Outfit, &c., including services.
1	Expenditures incurred by John W. Russell, U. S. agent	$152,797 87	$121,023 30	$25,214 12	$6,560 45
2	Expenditures incurred by Chas. A. Fuller, U. S. agent	21,807 87	13,960 00	3,263 62	4,584 25
3	Expenditures incurred by Joshua Barney, U. S. agent	20,416 55	11,045 88	5,519 37	3,851 30
	Grand total	195,022 29	146,029 18	33,977 11	14,996 00

Explanation of schedules.

In further explanation of the foregoing schedules the following remarks are deemed proper, viz:

1. The column headed "aggregate of expenditures," shows in detail all the items of expenditure incurred, on all scores, relating to the improvement of the Ohio, including Cumberland dam; the Mississippi, including the harbor of Dubuque; the Missouri and Arkansas rivers, from the date of the appropriations to the close of the last fiscal year, including June 30, 1853.

The aggregate amount of the expenditures is $195,022 29, as shown at the footing of the schedules and of the summary recapitulation.

2. The column headed "construction and repairs," shows in like manner all the items of expenditure incurred and required on account of the entire construction and repairs of engines, &c., of snag-boats, dredge-boats, discharging-scows, &c. The amount disposed of for these purposes being $146,029 18, as shown at the footing of the columns.

3. The two columns headed "equipment of boats," and "outfit, &c., including services," exhibit the expenses that ought to be defrayed out of the appropriations specially provided for the improvement of the Ohio, including the Cumberland dam; the Mississippi, the Missouri, and the Arkansas rivers, and for the harbor of Dubuque.

The aggregate amount of the items in these two columns ($33,997 11 for equipment of boats, and $14,996 for outfit, &c.) is $48,993 11, as shown by combining the footing of both columns.

[Special references to appropriations.]

4. The expenditures incurred by Charles A. Fuller, esq., as exhibited in the two columns just before designated, (viz: $3,263 62 added to $4,584 25,) amount to $7,847 87, and are chargeable to the appropriations for the Ohio river, including Cumberland dam.

5. The expenditures incurred by Joshua Barney, esq., as exhibited in the same two columns, (viz: $5,519 37 added to $3,851 30,) amount to $9,370 67, and are chargeable to the appropriation for the improvement of the harbor of Dubuque.

6. The expenditures incurred by John W. Russell, esq., as exhibited in the same two columns, (viz: $25,214 12 added to $6,560 45,) amount to $31,774 57, and are chargeable to the appropriations for the improvement of the Mississippi, Missouri, and Arkansas rivers, in proportions corresponding to the amounts appropriated to these rivers, respectively, as follows, viz:

Nine-seventeenths of the amount, (viz: $\frac{9}{17}$ of $31,774 57,) equal to $16,821 81, is chargeable to the appropriation for the improvement of the Mississippi.

Four-seventeenths of the amount, (viz: $\frac{4}{17}$ of $31,774 57,) equal to $7,476 38, is chargeable to the appropriation for the improvement of the Missouri.

Four-seventeenths of the amount, (viz: $\frac{4}{17}$ of $31,774 57,) equal to $7,476 38, is chargeable to the appropriation for the improvement of the Arkansas river.

Appropriations and unexpended balances

Item 1: Amount of appropriation for the improvement of the Mississippi	$90,0
Chargeable to this appropriation	16,8
Unexpended balance of same	73,1
Item 2: Amount of appropriation for the improvement of the Ohio	$90,0
Chargeable to this appropriation	7,8
Unexpended balance of same	82,1
Item 3: Amount of appropriation for the improvement of the Missouri	$40,0
Chargeable to this appropriation	7,4
Unexpended balance of same	32,6
Item 4: Amount of appropriation for the improvement of the Arkansas	$40,0
Chargeable to this appropriation	7,4
Unexpended balance of same	32,6
Item 5: Amount of appropriation for the construction of snag-boats, &c.	$150,0
Chargeable to this appropriation	146,0
Unexpended balance of same	3,9
*Item 6: Amount of appropriation for the improvement of the rapids of the upper Mississippi	$100,0
*Item 7: For the improvement of Illinois river	30,0
Both amounts remaining unexpended, viz.	130,0
Item 8: Amount of appropriation for the harbor of Dubuque, upper Mississippi	$15,0
Chargeable to this appropriation	9,8
Unexpended balance of same	5,0

The data employed in the compilation of the foregoing stat embrace the quarterly returns of John W. Russell, esq., for the quarter of 1852 and the first and second quarters of 1853, as sub by him through this office to the Topographical bureau; and

* Under these two heads no returns of expenditures have been made, and none *ceivable prior to the* beginning of the current fiscal year.

returns made by Joshua Barney, esq., and Charles A. Fuller, esq., for the fourth quarter of 1852 and the first and second quarters of the current fiscal year. These returns have enabled me to carry forward the exhibit in a manner to show, with a high degree of certainty, all the expenditures that have been made under their respective agencies to the end of the last fiscal year.

The total amount of receipts from the United States treasury, as credited by the agents above mentioned, is as follows, viz:

On accounts of J. W. Russell	$155,000 00
On accounts of C. A. Fuller	27,300 00
On accounts of J. Barney	22,879 00
Total of receipts	205,179 00
Total amount of expenditures (exclusive of discrepancies or credit vouchers and suspended accounts, amounting to $1,050 67)	195,022 29
Amount of unexpended balances in hands of agents July 1, 1853	10,156 71

In conclusion, it is proper to remark, that all the expenditures treated of in the schedules, &c., were incurred prior to the 30th of June, 1853, when, with the exception of the snag-boat No. 5, (the Terror,) neither of the snag-boats and neither of the dredge-boats were yet completed and ready for service, and when of course nothing had been or could be done towards the improvement proper or the removal of snags, &c., in the Mississippi, Missouri, and Arkansas rivers, for which four of the snag-boats were specially intended.

With exception of the snag-boat (Terror) No. 5, none of the snag-boats were ready for operation till the 26th of July following, although the expenditures had been carried to the extent above mentioned.

Respectfully submitted.

S. H. LONG,
Lieut. Col. Top. Engs., Supt. Western River Improvements.

Col. J. J. ABERT,
Chief Topographical Engineers, Washington, D. C.

DOCUMENT F.

Circular containing instructions to Messrs. Warren, Barney, and Floyd, in reference to survey of rapids of Upper Mississippi.

OFFICE OF WESTERN RIVER IMPROVEMENTS,
Louisville, June 1, 1853.

SIR: The survey of the rapids of the upper Mississippi is confided to your supervision and direction, with the understanding that you take all appropriate steps pertaining thereto with due promptness, and report thereon *to this office prior to your departure.*

In the survey of the Des Moines rapids, you are desired to consult with John G. Floyd, esq., United States agent for the improvement of those rapids, who is hereby instructed to confer with and aid you in all duties and operations relating to the survey as hereinafter explained.

In the survey of Rock Island rapids, you are desired to consult with Joshua Barney, esq., United States agent for the improvement of those rapids, who is hereby instructed to confer with and aid you in all duties and operations relating to the survey thereof as hereinafter explained.

The objects of the surveys in both cases are to determine the most direct, favorable, and economical passes or routes along the bed of the river, for the formation of a continuous navigable channel at least two hundred (200) feet wide and four feet deep at the lowest stage of the river ever known, or likely to occur again, at either of said rapids.

The proper position of such channel having been determined with all due precision at both rapids respectively, those parts of the passes or channels where enlargement by deepening, widening, or straightening, by means of rock excavations at its sides and bottom, is needful, will be divided into sections not exceeding one mile in length on any part of the rapids.

In fixing the length of the sections, special attention must be given to the character and extent of the excavations required thereat, and to the distances to which the excavated material must be conveyed for deposition—at the depth of at least four feet below the surface of extreme low water—in order that the work required on each section may be uniformly the same, or as nearly so as practicable, for every lineal foot, yard, or rod, in the entire length of the section.

At both rapids occur spaces of very considerable extent, occasionally one to three or four miles in length, which need not be divided into sections nor numbered as sections, no improvement being required thereat.

In numbering the sections, begin with a unit at the foot of each of the rapids, and numbering successively upward in the order of the sections as they occur, omitting those portions on which no work is to be done.

Let the sections be distinctly demarked by floats or buoys set in the middle or at the sides of the channel; and let land-marks be conspicuously set at or near both shores of the river, in pairs, in such manner that a right line, extending from one mark to the other of each pair, may pass through the point or portion of the buoy to which the marks relate; and let these land-marks be numbered in pairs, (both marks bearing the same number,) thus indicating the successive numbers of the sections.

Let the field-notes of the survey be taken, and kept with such neatness, care, precision, and accuracy, as to embrace and afford the data required in preparing correct delineations of the channels and other leading features, including soundings, &c., of both rapids.

Let the order in which the surveys are to be made, and the details of the same, be determined by the concurrent counsel of yourself and the gentlemen agents who are expected to co-operate with you in the execution of the surveys, in so far as relates to the improvement committed *to their charge respectively*. In view of the circumstances of the case,

it seems to me desirable that the survey of the Rock Island rapids should have precedence; but, as before observed, this question is submitted to the joint counsel of yourself and your coadjutors.

You are expected to execute the surveys with all practicable despatch, so that the whole may be completed, and especially the sections of the work on both rapids may be clearly demarked in season to subject the work to contracts by the time of the subsidence of the river to its lowest stage, which is likely to occur in the latter part of July, or early in August next.

Agreeably to common usages sanctioned by the civil authorities, and of course by the military authorities of the community, the average daily duration of labor is ten hours per day, Sundays excepted, for all persons employed in the public service. The terms of service, especially in field operations, are expected to be regulated in conformity to these and such other proper usages as may consistently be applied in the prosecution of the duties assigned you.

Funds will be furnished, on your requisition and receipt, to an amount sufficient to defray the expenses of the field works, exclusive of any allowance to the United States agents whose names have been herein mentioned.

Having prepared and completed your outfit, so far as it may be done at this place, you will report thereon, and receive such additional instructions as may be deemed relevant.

S. H. LONG,
Lieut. Col. Top. Engineers, Supt. W. R. Imp'ts.

Lieut. G. K. WARREN,
Corps Topographical Engineers, Louisville, Ky.

DOCUMENT G.

Report on a tour of examination and inspection of Ohio river, &c.

OFFICE WESTERN RIVER IMPROVEMENTS,
Louisville, July 13, 1853.

SIR: I have the honor to report, briefly and compendiously, the results of my observations and inquiries made on a late tour of examination and inspection, in the discharge of my official duties, and in accordance with your instructions of the 27th April last, the journeys having been performed between the 21st of June last and the 15th of the current month.

The tour of examinations, &c., embraced the Ohio below the falls; the Mississippi from the mouth of the Ohio upwards to Dubuque; the Illinois from its mouth to the head of its natural navigation, and the country thence by way of Chicago, Upper Sandusky, Cincinnati; together with the Ohio river between Cincinnati and Louisville.

The depths on the more difficult bars, between Louisville and the mouth of the Ohio, varied from 3 to 3½ feet; whereas the draught of the snag-boats, when *in trim for service, is* about 4 feet.

The navigation of the Ohio, below the falls, is not only obstructed in

low water by numerous sand bars, but many snags and sunken l which render the navigation in a low stage quite hazardous. The bars were, moreover, infested with logs and prostrate trees, all of wl require removal, and were intended to be operated upon as soon as snag-boats could be got ready for service.

The Mississippi was at a medial stage, too high for observing snags, &c., in the way of low-water navigation. That portion of river situated between Cairo and the mouth of the Missouri is re sented to abound in snags, &c., which can only be operated upon stage of water much lower than that existing at the time of my examination.

The upper Mississippi, at the same time, was swollen to a deptl 6 to 9 feet above extreme low water. Impediments to its navigat in the shape of snags, sunken logs, &c., are seldom to be met with. low-water channels afford a depth sufficient to admit of boats drav nearly 3 feet to pass freely in the principal channels, except at rocky bars that exist at the Des Moines and Rock Island rapids, at l of which, and especially the former, the channels are exceedi crooked, and in places very narrow and winding.

The low-water depth on the shoalest reefs does not exceed 18 inc and the width of the channel does not exceed 40 to 50 feet. The s of the river, at the time of observation, was too elevated to admi any measurements by which the width and depth of the low-w channels could be determined.

Agreeably to instructions previously given, I found Lieutenan K. Warren, assisted by J. Barney, esq., and Major Floyd, engage the survey of the Rock Island rapids, or rather in preliminary sur on shore, for the purpose of examining stations, to which triangulat for determining the width of the river at various points, and for de nating the position of the channels, where improvements are requir

The sand bars of the upper Mississippi, traversed by low-w channels, admit the passage of boats drawing 2½ to 3 feet in ordi low stages of the river. Hence it may be inferred that the dept the channels through the rapids, in corresponding stages, need not ceed 3½ feet, which will be the depth to which the channel will opened, unless otherwise ordered; the width, as before contempla being 200 feet.

The rocks, constituting the bed of the river at both rapids, being the most part a loose slaty or shistose limestone, unfavorable for bl ing, will prove more difficult of reduction and removal than hith supposed, especially as the work of blasting must, in all cases, effected beneath the surface of the water.

At the harbor of Dubuque, the process of dredging was resu under the direction of J. Barney, esq., on the 1st day of July, inst Disappointments unavoidable, in the preparation of the requisite n scows, rendered an earlier commencement impracticable.

With respect to the method of improvement adopted by J. Bar esq., with the view of connecting the harbor with the main navig channel of the river, the reasons have not been fully explained to but as it has no doubt received the approbation of the Topograph *bureau, no question of its* propriety will now be raised.

The work of dredging will no doubt occupy the entire period from the 1st of July to the 1st, possibly to the 15th, September next; after which the dredge-boat is expected to be employed in the improvement of the Illinois river.

The Illinois river has an extent of natural navigation of 244 miles from its mouth to Lasalle, and has its navigation obstructed in low water by shoals or bars, of greater or less extent, at no less than 33 points.

The low-water depth at the several bars varies from 12 to 30 inches, while the channels or basins between the bars are said to afford a constant depth of 3 feet in the lowest stage. The aggregate distance through which the channel requires widening and deepening does not probably exceed 8 or 9 miles. A channel 3 feet deep and 200 feet wide, to be opened across the several bars, is deemed the best improvement of which the river is susceptible.

I have employed Geo. W. Long, esq., formerly of the United States army, to perform a reconnoissance of the river, at a compensation of $5 per day, and travelling allowance for the time actually employed, and to report thereon as early as practicable; on the receipt of his report I shall probably be able to take measures for the speedy commencement of preliminary surveys and demarcations, of a character to show the curvatures and area of the low-water surface of the river, and designate the positions at which improvements will be required.

The Ohio river, between Cincinnati and Louisville, has been operated upon by the small snag-boat No. 5, (the Terror,) during the months of May and June, and to the present time. Numerous impediments to its safe navigation, consisting of wrecks, snags, sunken logs, impending trees, &c., &c., have been removed, and the facility of its navigation greatly improved.

I regret to inform you that the continued low stage of the Ohio has rendered it impracticable for the snag flotilla to descend to the mouth of the river, and commence operations in the removal of obstructions from the Mississippi, Missouri, and Arkansas rivers.

S. H. LONG,
Lieut. Col. T. E., Supt. W. R. Improvements.

Col. J. J. ABERT,
Chief Topographical Engineers, Washington, D. C.

DOCUMENT H.

Additional instructions to Lieutenant Warren.

OFFICE WESTERN RIVER IMPROVEMENTS,
Louisville, July 20, 1853.

SIR: I find that I have no sufficient leisure to revise and amend the instructions given you under date of June 1, 1853. My recent examination of the rapids induces the opinion that the modification of those instructions, verbally *proposed and* explained to you at Davenport on *the 4th and 5th instant, are* appropriate, especially in so far as

relates to the setting of buoys along the centre instead of the sides the channel, where improvements are required, and the mode of co structing and anchoring the buoys.

Other deviations from the instructions of the 1st of June are al admissible, on the showing of good and sufficient reasons therefor.

You are expected to study every case connected with your operatic with care and close attention, and regulate your proceedings by t best lights that can be thrown upon every subject connected with yo investigations, with the conviction on your part, as well as on the p of your colleagues, that your proceedings in all cases are most conc cive to the public good.

Mr. Barney was instructed to co-operate with you in the survey the rapids as soon as his duties at Dubuque would admit of l absence from that place.

If I recollect rightly, I authorized and instructed you while at D venport to pay Mr. Barney's accounts for travelling allowances; a the accounts of Major Floyd, both for salary and travelling allowan to the extent for which such considerations are allowable on su accounts during the progress of your survey.

You are authorized to obtain the services of Mr. Hare and his sm steamer, with its crew, &c., at a rate not exceeding $40 per day for t whole, provided you cannot be accommodated with another steam &c., on more favorable terms.

You are also authorized to employ similar help for the survey of t Des Moines rapids.

In both cases you will make such arrangements as will be likely restrict the employment of steamers to the lowest practicable durati I conclude with the repetition of the injunction, that you have all yo accounts prepared and rendered in conformity to the usages of t office, studiously avoiding all entries therein in the shape of ca charges, and with the requisition that you keep me apprized of yo progress, and the circumstances affecting it, as promptly as practicab

S. H. LONG,
Lieut. Col. Top. Eng's, Supt. Western River Improvements.

Lieut. G. K. WARREN,
Corps Top. Eng's, Davenport, Iowa.

DOCUMENT I.

Circular containing instructions issued to the captains of the several snag-bo

OFFICE WESTERN RIVER IMPROVEMENTS,
Louisville, July 20, 1853

SIR: The snag-boat No —, to the command of which you have b assigned agreeably to instructions from the War Department a Topographical bureau, having been completed and now ready service, you are hereby directed to take personal charge of the sa together with all articles of equipment and outfit pertaining there and to make all such arrangements as are needful to a timely depart *for appropriate service* in the prosecution of the snag business, on su

of the western rivers, and at such points thereon, as may be hereafter designated by special instructions.

As you will be held accountable for the preservation, proper management, efficient employment, and economical use of the boat and all public property pertaining to the same, you will be required to furnish an inventory, setting forth the number and designation of your boat, with your official receipt annexed to the inventory; also an inventory, duly receipted, in which all articles of equipment, comprehending anchors, cables, blocks of different sizes, warps, hawsers, rigging, chains, bellows, anvils, and smith tools of all kinds; saws, axes, augers, and all other detached and movable articles and utensils that are needful in working the boat, and liable to be injured, lost, or stolen in the service; and in like manner an inventory, duly receipted, in which all articles of kitchen and cabin furniture, including tables, chairs, table linen, towels, &c., and all provisions on board of the boat and fit for use; all of which are hereby committed to your care and charge.

Agreeably to the rules and regulations, all officers, men, &c., constituting the boat's crew, are to be employed by the captain of the boat, with the approval of the superintendent. You are accordingly desired promptly to report the names and capacities of service of all persons contemplated to be employed by you, and will furnish such credentials, in relation to the qualification of the officers you have selected, as will enable the superintendent to decide upon their qualifications to fill the stations for which they have been selected, and to ratify the selection.

In order that you may be more fully apprized of the nature and extent of the duties required and expected of you, you are herewith furnished with a printed pamphlet, containing the rules and regulations, articles of enrolment, &c., approved and adopted by the honorable Secretary of War, and ordered to be carried into effect by the Topographical bureau under my direction.

A strict and scrupulous conformity to the regulations thus prescribed and adopted is required of yourself, and of the officers, mechanics, and laborers serving on board of your boat.

In accordance with said rules and regulations, and articles, your particular attention is directed to the observance of the several items of instruction detailed in the following order, under the head of

Special instructions.

Item 1*st.*—The movements, places of operation, and nature of work, number of obstructions removed, and all events and occurrences worthy of notice, will be recorded daily, by the clerk of your boat, in a log-book furnished for that purpose.

Item 2*d.*—The clerk will also keep a monthly time-roll, showing the days, or part of days, actually employed in the service by every officer, mechanic, and laborer serving under your command.

Item 3*d.*—The clerk will also keep all accounts, vouchers, &c., relating to incidental charges for fuel, provisions, and all other items of expenditure, and cause the same to be neatly and accurately kept, and carefully preserved. The whole *to be done* under your supervision, and in accordance *with forms that will be* furnished for your guidance.

Item 4th.—Returns of work done, and of the actual number of days for which services have been rendered by each individual employed under your command, will be transcribed from the log-book and time-book at the close of each month, and forwarded, by mail or other safe conveyance, as early thereafter as practicable, with your certificate and signature annexed in the form of each return.

Item 5th.—Funds for the purchase of fuel and provisions, and for defraying incidental expenses on account of the service, to an amount not exceeding $500, will be advanced, from time to time, on your requisition for the same, accompanied by a statement showing the amount previously expended, and the balance on hand applicable to further expenditures.

Item 6th.—In conformity to the usages of the Topographical bureau, you are required to give a bond, in duplicate, in the sum of one thousand dollars, with good and acceptable sureties, under which you will be authorized to draw on me, from time to time, according to the exigencies of the service, for a sum not exceeding $500, all unexpended balances being included.

Item 7th.—The sums drawn as above may be expended in payments for fuel, provisions, and other contingencies, vouchers for all of which respectively will be filed and executed, in due form, by the clerk of your boat, and in accordance with samples furnished from this office.

Item 8th.—Blank enrolments, pay-rolls, vouchers, time-books, &c., together with such articles of stationery as may be required for public use on board of your boat, will be furnished, from time to time, a occasion may require, on your requisition therefor.

Item 9th.—No allowance will be made by you for services of any sort on board of your boat, except such as may have been expressly sanctioned by the superintendent.

Item 10th.—The pay to the clerk of your boat will be limited to $50 per month, till he shall have evinced a capacity and ability to perform, in a neat, skilful, and satisfactory manner, all the duties enjoined by item 4th of the printed preliminary regulations. Inexperienced clerks will in no case be allowed a compensation exceeding $35 per month.

Item 11th.—All reports, returns, and other communications relating to the duties assigned you, will be addressed to the superintendent of the western river improvements, Louisville, Kentucky, and promptly forwarded, by mail or other safe and speedy conveyance, to this office, from which suitable replies will be transmitted as early as practicable after the receipt of communications, &c.

Item 12th.—The points and localities on which your operations in removing snags, &c., are to be performed, when not designated in previous instructions, will be selected by yourself, and adopted with the view to render the most efficient service in furtherance of western river improvements, care being taken, in all cases, to avoid long voyages in which no work of improvement can be done. In exercising the discretion allowed as above, you are not expected to invade the localities assigned to, or selected by, captains of other snag-boats, or to transfer your operations from one river to another, without instructions from the superintendent.

Item 13th.—In all your operations you will be careful to avoid being

in any position on any river from which you cannot escape with your boat on the subsidence of the river.

Item 14*th*.—In the prospect that any river on which you are employed soon becoming too low to admit of your retreating from it with your boat, you will at once descend towards its mouth, and continue to operate lower down, or withdraw from the river entirely, according to circumstances.

Item 15*th*.—In the purchase of supplies of all kinds for use or consumption on board of your boat, you are expected to exercise a sound discretion and discrimination, procuring such articles only as are necessary to the successful operation of the boat and comfortable accommodation of all on board; a strict regard being paid to all regulations affecting their employment, accommodations, and subsistence, with the understanding always that the articles for subsistence, procured at the public expense, are to be similar in all respects, whether for the use of the officers, or the men, &c., employed as laborers.

Item 16*th*.—As captain of the boat, you are of course invested with all the authority and privileges usually accorded to such station or command, and are expected to exercise them in a manner strictly conformable to the printed rules and regulations, and to the most approved custom and usages prevailing in similar cases.

Item 17*th*.—Whenever you may have occasion to discharge any officer, mechanic, or laborer, on account of incompetency, or other sufficient cause, you are expected to settle (to the date of his discharge) his accounts in due form by pay-roll, and liquidate the same out of any public funds you may have in your possession.

Item 18*th*.—Additional instructions will be issued from this office to your address from time to time, as occasion may require.

Item 19*th*.—It is expected and required that all orders and instructions, whether in print or in manuscript, issued from or through this office, will be attentively perused, and carefully considered and observed in all their details and provisions, especially by the captains, mates, and clerks of all the snag-boats; and in case of any explanations being required in reference thereto, or to any part thereof, they will be given from this office, on requisitions made therefor.

S. H. LONG,
Lt. Col. Top. Eng'rs, Supt. Western River Improvements.

Capt. H. R. DAY,	commanding snag-boat	No. 1.
Capt. Thos. RIDDLE,	do.	No. 2.
Capt. N. M. FERGUSON,	do.	No. 4.
Capt. H. FENDREN,	do.	No. 5.

DOCUMENT K.

Instructions to Charles A. Fuller, esq.

OFFICE WESTERN RIVER IMPROVEMENTS,
Louisville, August 2, 1853.

SIR: I herewith enclose for your information a copy of a letter from Dr. C. Bauer to the honorable Secretary of the Interior, in reference to the use of stone deposited in a wing dam of the Ohio near Belleville island, Virginia, for the construction of a wharf at Belleville. You are desired at your earliest convenience, consistently with other duties, to examine the dam, investigate the question of its utility, and the propriety of granting the privilege solicited, and report your views and the results of your investigations in reference to the whole subject. (See document marked A, herewith enclosed.)

With this service in prospect, you will in the mean time make arrangements to inspect all the wing dams of the upper Ohio, including that above mentioned; explain the nature and extent of their efficacy, or otherwise of their inefficiency; notice the alterations, removals, or repairs proper to be made upon them; and point out with care other localities when the navigation is susceptible of improvement by the construction of similar works.

In connexion with the duties assigned as above, you are moreover especially directed to make arrangements for a careful survey of the harbor of Marietta, and for a full and clear exposition of all circumstances affecting the improvement of that harbor.

I enclose herewith, for your use and information, copies of sundry communications relating to the improvement of said harbor. (See documents herewith, marked B and C.)

Your attention to the services designated as above, and your reports thereon, are desired at your earliest convenience.

S. H. LONG,
Lt. Col. Top. Eng'rs, Supt. Western River Improvements.

C. A. FULLER, esq.,
U. S. Agent for improvement of Ohio, &c., Louisville, Ky.

DOCUMENT L.

Instructions relative to the improvement of Illinois river.

OFFICE WESTERN RIVER IMPROVEMENTS,
Louisville, August 22, 1853.

GENTLEMEN: In the discharge of the duties of your respective appointments, of which you have been duly notified, you are desired to regulate your proceedings in a manner conformable to the printed rules and regulations herewith submitted for your information, and to such special instructions as are hereto subjoined, and to such also as *may hereafter issue* from this office for your guidance and direction.

The probable subjects claiming your attention are presented in the following order, viz:

1. A project showing the manner in which you propose to execute the requisite preliminary surveys, deemed advisable as a means of ascertaining the nature and extent of the shoals of the river at which improvements are required.

2. A description of the quarter-boat, skiffs, and various articles of equipment and outfit, including instruments, stationery, field-books, &c., required for the prosecution of the survey.

3. The method of improvement best adapted to the formation of channels leading across the shoals and bars of the river, whether by dredging or otherwise, the channels to be formed having a width of 200 feet, except at very narrow passes, where they may, if deemed necessary, be limited to a width of 120 feet for short distances, and a depth of 3 feet below the surface of extreme low water in all cases.

4. A roll setting forth the capacity, rates of compensation, &c., in accordance with which the several individuals required for the execution of the surveys may be employed.

5. Two dredge-boats have already been constructed for the improvement of the western rivers, one or both of which, as soon as they can be transferred from the services in which they are now employed to the contemplated improvement of the Illinois river, will be assigned to the service last mentioned, with three officers and crews as now organized.

6. The disbursements required for the improvement of the Illinois river are expected to be made by Geo. A. Dunlap, esq., the United States agent appointed for this purpose, who is hereby directed to submit monthly estimates of funds required in the first instance, on account of the boats, &c., necessary to the commencement of the survey; and subsequently, similar estimates of funds for the prosecution of the surveys; and lastly, similar estimates of the probable monthly expenses on account of the formation of the new channel. To every monthly estimate as above he is expected to subjoin a statement of the unexpended balance on hand at the end of the month, and to deduct the same from the amount required as per estimate for the ensuing month. For the remainder thus obtained, he is authorized to make a requisition monthly, on or about the beginning of each month, for funds required for the prosecution of the survey and other operations relating to the improvement of the Illinois river.

7. All official correspondence relating to the improvement of the Illinois, including the estimates and requisitions provided for in the preceding item, will pass to and through this office; and all reports in relation to the same will be addressed to the superintendent, and forwarded to this office for his inspection, and such other disposition as may be properly made of the same.

8. Blank enrolments, pay-rolls, accounts current, common vouchers, &c., accompanied by model accounts, &c., of the same sort; also blank time-rolls, journal, memorandum book, drawing paper, &c., are herewith furnished for his use in the discharge of his duties as a disbursing officer.

10. *As before intimated, one or both of* the United States dredge-

boats, with their scows and equipments, and with their crews complete, will be ordered on service in the Illinois river as soon as they can be spared from duties at the points where they are now operating.

11. On or before the time of commencing the business of dredging, additional instructions will be given in relation to operations of this character; and whenever you may desire instructions on any topic, I shall cheerfully respond to your requisitions for the same.

S. H. LONG,
Lieut. Col. Top. Eng'rs, Supt. Western River Improvements.

GEORGE A. DUNLAP, esq.,
Superintendent of Disbursements.

GEORGE W. LONG, esq.,
Engineer for improvement of Illinois river.

OFFICE OF OHIO RIVER IMPROVEMENTS,
Louisville, September 1, 1853.

SIR: In compliance with the regulations of the Topographical bureau, I have the honor to submit a report of my operations during the past year, in furtherance of the improvement of the Ohio river, including repairs of Cumberland dam, together with an estimate for the further prosecution of the work during the next fiscal year.

My receipts and expenditures for the year commencing July 1, 1852, and ending June 30, 1853, on account of this service, are as follows, to wit:

RECEIPTS.

Treasury draft No.	3,907,	received March 22, 1853...	$500 00
Do.....	3,965	... do ...April 4, 1853.....	3,000 00
Do.....	4,118	... do ...April 25, 1853.....	8,000 00
Do.....	4,368	... do ...June 2, 1853.....	4,800 00
Do.....	4,473	... do ...June 22, 1853.....	11,000 00
Amounting to			27,300 00

EXPENDITURES.

Amount expended 3d quarter, 1852.....	$000 00	
Do.....do...4th...do..1852.....	000 00	
Do.....do...1st...do..1853.....	336 00	
Do.....do...2d...do..1853.....	21,471 90	
Amounting to.		21,807 90
Balance on hand June 30, 1853.....		5,492 10

Which balance has since been applied in the prosecution of the duties of my agency.

From the date of my appointment as "local agent and engineer," *viz: on the 3d February*, 1853, to an early date in March, my attention

was principally directed to an examination of such drawings and other documents pertaining to former surveys, &c., of the Ohio river and Cumberland dam, as were available, and which might be useful in the prosecution of my duties. On the 12th March, authority having been given me to construct a dredge-boat for operation in the vicinity of Cumberland dam, and such other points on the Ohio as might be deemed expedient, I made the necessary contracts for the hull, engine, and machinery, which were duly forwarded to the Topographical bureau, under date of the 24th March. The boat was finished complete in all its parts and appendages, together with four discharging-scows, and left Louisville on the 14th July for Cumberland dam. The amount expended on account of the construction, &c., of the dredge-boat, prior to June 30, 1853, was $11,596 14.

Pursuant to instructions from the Topographical bureau of the 24th March, in which I was authorized to receive from Captain J. W. Russell, United States agent, any one of the snag-boats then constructing at New Albany, Indiana, under his directions, should it answer my purpose, I selected the light-draught boat (No. 5) Terror, and that it might be made available for operations on the upper Ohio, I caused it to be brought above the falls to Louisville. The construction, equipment, and outfit, having been completed under my directions on the 5th May, it left Louisville for Pittsburg under the command of Captain J. K. Dillingham, an old and experienced snag-boat captain.

My instructions to Capt. Dillingham were, mainly, that he should proceed as rapidly as possible to the head of the Ohio, and from thence work down, removing all obstructions in the shape of logs, snags, &c., &c., in and near the channel, and to return to Louisville in season to pass over the falls with the usual June freshet, and to operate on the lower Ohio. Unfortunately no "June freshet" of sufficient magnitude occurred, and the boat was compelled to remain above.

The total number of snags and other obstructions removed by the Terror, prior to the 30th June, 1853, is as follows, viz:

Date.	Snags removed.	Roots, &c., blasted.	Flat-boats raised.	Logs, &c., removed.	Impending trees felled.
May 5 to June 30...	93	15	9	7	10

The amount expended by me on account of the construction, equipment, outfit, &c., &c., of the boat, prior to June 30, 1853, was $8,797 71.

For reasons submitted to the bureau and duly approved, I decided to make the repairs and enlargement of Cumberland dam by contract, rather than by hired labor. Accordingly, having advertised for proposals for the delivery of the amount of stone required, and having received many propositions from different contractors, that of Mr. Robert Swan was deemed most acceptable. Mr. Swan having made the lowest proposal, and being well known as a former contractor on the river, and *as a man of energy, honesty,* and ability, I felt no hesitation

in recommending him for the contract. My course having been approved, a contract was entered into with him for the delivery into line of dam of about 3,000 tons of stone, which amount it was then supposed would be sufficient to make the required repairs. A copy of the contract was transmitted under date of June 7, 1853.

Prior to the 30th June but 1,686 tons of stone had been deposited, and no payments had been made by me on account of said contract.

Of the work done at Cumberland dam and on the Ohio river, from the 1st day of July to the present date, I will treat briefly, as follows:

At Cumberland dam, to the date of the last report received from the supervisor of that work, (20th instant,) there had been 15,973 tons of stone deposited, which, together with that deposited prior to July 1st, viz: 1,686, gives a total of 17,659 tons. Having been, by reason of my other duties, unavoidably prevented from visiting this locality since the 26th July last, I cannot report from personal observations the effects, either beneficial or otherwise, of the repairs so far as they have progressed. At the date of my last visit I found the depth of water in the Kentucky chute of Cumberland island considerably increased, so much so that no boat attempted to pass through or over the dam, but all availed themselves of the Smithland channel. At that time no stone had been placed in the V or gap. Since that date the dredge-boat has been operating at and near the head of the Kentucky chute, in straightening the entrance, and widening and deepening the channel over the bar.

The bar at the foot of Cumberland island probably now requires the services of the dredge-boat; and I have already sent instructions to the commandant of the Gopher to examine that locality, and to operate there, if found necessary and expedient.

The snag-boat (No. 5) Terror, from the 1st to the 22d July, worked to great advantage between Cincinnati and Louisville. On her arrival here, at the date last mentioned, finding the water too low either to operate above Cincinnati or to pass the falls, and having removed all the obstructions that could be found near the channel between Cincinnati and Louisville, I caused her to be laid up for repairs and some necessary alterations. The working crew were paid off, and the boat put in ordinary, with only the necessary officers and laborers required for the time, and at reduced wages.

The total number of obstructions removed since July 1st is as follows:

Date.	Snags removed.	Roots, &c., blasted.	Flat-boats raised.	Logs, &c., removed.	Impending trees felled.
July 1st to July 22d.	47	13	14	.....	.....
Prior to July 1st....	93	15	9	7	10
Total since May 5, 1853.....	140	28	23	7	10

On the 2d ultimo, by instructions from headquarters western river improvements, I was directed to make arrangements for a careful survey of Marietta harbor; to examine the dam at Belleville islands, and to inspect all the wing-dams on the upper Ohio, &c., &c.

In compliance with these instructions, I left Louisville on the 10th August, and have performed the duties required.

The survey at and near Marietta has been made by my assistant, Geo F. Fuller, corps of engineers, under my directions. This survey was required in consequence of a memorial having been received from sundry citizens of Marietta, urgently calling for an improvement at that locality. I am not yet prepared to report fully on this subject; but, from my personal observations on my recent visit, my views in reference thereto, as set forth in my communication of the 17th June, 1853, remain unchanged, and to which I take leave to refer for further information on this subject.

The drawings and report of this survey will be prepared and transmitted to headquarters western river improvements at an early date.

The examination at Belleville, Illinois, was made particularly in reference to a request from C. D. Bauer, M. D., to the Secretary of the Interior, "that permission might be granted to use a portion of the rock for a wharf at Belleville."

The petitioner evidently misapprehends the object for which this dam was built. He says "that the dam in question is not of the least utility, as it is built at such a place that when the water is required in the channel it is perfectly dry around the dam." The dam in question is intended to turn the water at a stage somewhat elevated above extreme low water, and also to back the river over Belleville shoals, a short distance above. Both of these objects are effected by the dam, and with very beneficial results.

Belleville shoals have been a great obstruction to navigation in that part of the river; and, from the peculiar form and position of the bars, can be more easily, economically and successfully improved, by means of the dam referred to, than by any other plan of improvement. I would, therefore, recommend that this dam be repaired, and elevated at least one foot above its present level.

Belleville is located nearly equi-distant between the dam and the quarries from whence the rock was obtained for the construction of the dam, and doubtless sufficient stone for the purposes desired by Dr. Bauer could be obtained at these quarries.

Having inspected the various dams on the Ohio between Pittsburg and Cincinnati, I am gratified in being warranted in reporting that in almost every instance they have proved decidedly beneficial to the low-water navigation. Many of them, however, were not completed on the suspension of the work of improvement in 1844, and nearly all of them required both repairs and enlargement. Most of the breaches found on them have evidently been made by individuals, either for their own private advantage or with malicious intent. A remarkable resemblance was observed in several instances between the rocks at certain landings, in saw-mill ways, &c., &c., to those remaining in the neighboring dams.

The *location of the dams inspected, their* present condition, the re-

pairs required, &c., are briefly enumerated as follows, commencing with the first dam below Pittsburg, and proceeding in regular order down the Ohio:

Deer Island dam.—Extending across the left-hand chute of Deer island; is in good condition, but will require about 3,000 tons of stone to complete it.

Dam from foot of Neville's island to tow-head.—A breach has been made in this dam, evidently for the passage of skiffs and other small boats; about 400 tons of stone will fill the gap and repair the dam.

White's Ripple and Trap.—The long dam extending downwards from the foot of tow-head should be raised about eighteen inches; the cross dam from Middletown requires elevating about one foot; and the opening left for the ferry-way should be diminished in length.

Logstown bar.—The dam at this locality has been but partially constructed. For a distance of five hundred and eighty-seven feet from shore the dam requires no alteration; thence, about five hundred feet, a dam six feet in height will be necessary; thence, about six hundred feet, the present dam should be elevated about one foot.

Baker's island.—Dam should be elevated about one foot.

Black's island.—No repairs necessary.

Brown's island.—A portion of the crest of the dam at the head of the island, for about half its length, has been washed off. The wing-dam on the Virginia side has two small gaps requiring about fifty tons to fill them; and about five hundred feet of the dam from the shore downwards should be raised two feet; 8,000 to 10,000 tons of stone would make the necessary repairs.

Mingo Island dam.—Requires about 3,000 tons of stone to raise it for a distance of seven hundred feet in length.

Beach Bottom dam.—No repairs required.

Twin islands.—A breach in this dam four hundred feet in length; 6,000 to 7,000 tons of stone required.

Captain island.—Middle portion of the dam requires elevating; about 1,000 tons necessary.

Fish Creek island.—The dam for about six hundred feet in length should be raised; 3,000 tons would be sufficient.

Fishing creek.—About four hundred feet of the dam to be elevated one foot, and the dam extended downwards from three hundred to four hundred feet further. As the water is shoal along the line of the dam, but 3,000 tons of stone would be required.

Williamson's island.—Lower end of the dam should be raised, and a small gap near the foot filled; 1,500 tons sufficient.

Whitton's tow-head.—The dam at this locality had only been commenced, and but little progress made towards its construction, at the date of the suspension in 1844. To make the improvement here, nearly an entire new dam will be necessary.

Mills' island.—The upper portion of the dam for about four hundred feet is perfect. There are two small breaches to be filled, and two spaces of four hundred and three hundred feet to be elevated two feet; 4,000 tons sufficient.

Mill Creek Island dam.—No repairs required.

Grand River island.—Lower end of dam should be raised, and the dam extended two hundred feet towards head of island.

Petticoat bar.—The right-hand dam is about two feet lower than the left, and might be raised at least one foot to advantage. About one hundred feet of the left-hand dam requires raising.

Three Brothers.—Dam was completed as far as built; is in good order; should be extended downward to head of Dry bar, at Second Brother.

Vienna island.—Dam in good order, with the exception of a space about four hundred feet long, which requires to be raised about one foot.

Blennerhassett's island.—Dam at the head, for about three hundred feet, commencing at Virginia shore, is in good condition; thence for seventy-five feet it should be raised one foot; the balance, about seven hundred feet, should be raised two feet. The dam at the foot of the island requires about 500 tons of stone to repair it.

Newberry bar.—This dam requires elevating between two and three feet nearly its whole length.

Buffington island.—No less than six gaps have been made in this dam, viz: one of thirty feet, one of forty feet, two of sixty feet, one of fifty feet, and one of one hundred and thirty feet. Judging from their appearance, they have been intentionally made. These gaps all require filling, and the lower end of the dam, for a distance of six hundred feet, should be raised. This dam was never completed. The improvements at this locality require the completion of the old dam and the construction of one across the Ohio chute of the island, as originally designed.

Letart's islands.—The whole dam requires raising from one to two feet. Many of the stones appear to have been intentionally removed.

Raccoon island.—Four hundred feet of dam from shore line in perfect order; thence, for a distance of one hundred and fifty feet, the dam should be raised from one to two feet; and thence, about six hundred feet, at least three feet. Pilfering from the dam appears to have been practised extensively at this locality.

Brush Creek Island dam.—The entire length requires elevating about three feet.

There are several localities where no dams have as yet been constructed, but which present serious obstructions to low-water navigation. The most prominent of these are Beaver shoals, Raccoon bar, and Warsaw bar. A dam at the head of Raccoon bar, which is immediately below Beaver shoals, would doubtless not only improve the channel at the bar, but would at the same time back the water over the foot of the shoals.

Having never examined Warsaw bar at low water, I am not prepared to suggest any plan of improvement at that locality. It is the most serious obstruction between Cincinnati and Louisville, and some improvement should doubtless be made thereat. A dredge-boat could be advantageously worked at Beaver shoals and Warsaw bar, as well as at many other places on the Ohio.

The dams on the lower Ohio, with the exception of that at Cumberland island, are *in a very dilapidated condition*; and the expediency

of attempting any repairs of them is, to say the least, very questionable. The character of these bars is very different from that of those of the upper Ohio, nearly all of them being composed of light-shifting sand.

The navigation at these points may be improved temporarily by dredging at a stage of water somewhat above the lowest; and the channels thus formed will remain open at least until the occurrence of the next freshet. The system will require the constant use of one or two dredge-boats, to operate during the summer months throughout the lower part of the river.

The unexpended balance of appropriation for the Ohio river, including Cumberland dam, at this date, viz: $42,436 11, will be insufficient to complete the repairs and enlargement of the dam and at the same time cover the expenses of snagging, dredging, and other contingencies incident to the improvement of the river. In submitting an estimate for funds for the ensuing fiscal year, therefore, no unexpended balance is supposed to remain on hand at the close of the current fiscal year, viz: on the 30th June, 1854.

The surveys and estimates for the repairs of Cumberland dam were made in 1848. During the period of nearly five years that has elapsed since that date, many changes have taken place at that locality. A portion of the extreme lower end of the dam, as it then existed, has been washed away, and throughout the length of the dam generally the stone has been displaced to some extent. The original estimate consequently falls short of the amount required at the time of commencing the present work, rendering a further appropriation necessary to complete this improvement.

It now remains that I submit an estimate for funds required, in the prosecution of the duties assigned me, for the ensuing fiscal year commencing July 1, 1854, and ending June 30, 1855, which is as follows, to wit:

Estimate.

For continuing the improvement of the Ohio river, including Cumberland dam $90,000

Respectfully submitted.

CHAS. A. FULLER,
U. S. Agent, and Engineer Ohio River Improvement, &c.

Lieut. Col. S. H. Long,
Superintendent Western River Improvements, Louisville, Ky.

Dubuque, *September* 1, 1853.

Colonel: I have the honor to furnish the following history of my operation for the past year, in relation to my duties as agent for the United States "for the improvement of the harbor of Dubuque, Iowa, for the upper rapids of the Mississippi, and to build a dredge-boat."

I received the appointment as agent for the above-named works on *the 22d September*, 1852, and, agreeably to orders from the Topograph-

ical bureau, repaired to Dubuque, made the necessary examinations, "reported the condition of things and the work to be done," and contracted for the cuts above water, "in conformity with the understanding at the office of the colonel of the corps of topographical engineers."

These cuts were necessary for the enlargement and improvement of the cut, on which former appropriations had been expended under the sanction of the Topographical bureau.

I found, by reference to the map of the surveys I had made in the year 1844, and a critical examination of the islands and river opposite the city, that some modifications and additions to the plan sanctioned by the bureau would be necessary, in order to make the improvement of a nature more permanent and suitable to the rapidly-advancing importance of the city.

The current of the Mississippi, from some cause, had, within the preceding few years, taken a more direct course across from the Wisconsin and Illinois shore, so as to impinge against the outer island with much greater velocity, about 200 yards above the outlet of the harbor, and had washed away nearly 100 feet of it, both above and below the outlet. The material from this abrasion has formed a bar about 150 yards from the outer island, visible at low water for an extent of 200 yards, and about parallel to the shore. The head of this bar was just opposite the upper side of the outlet, and made it very difficult for boats descending the river to make an entrance to the harbor, particularly so as the velocity of the current at this place was nearly 2.5 miles per hour.

In addition to the improvements made under the appropriation of the general government, the citizens of Dubuque had made an excavation of 100 feet in width through the Bass island, immediately opposite the outlet, which excavation was then completed to within two feet of low-water mark; and the piles which had been driven by direction of the Topographical bureau, in a line across the slough immediately opposite, had all been removed.

From the changes which had taken place I inferred that, as the river continued to encroach upon the islands, the bar might extend upwards, and make the entrance by the present outlet still more difficult. I therefore recommended that a cut through the outer island should be made, from a point opposite the cut through Bass island, and extending obliquely up the river so as to meet the current of the Mississippi near the point where it impinged against the outer island. I also suggested that the lower cut through Bass island should be perfected, so that the entrance could be made, by boats coming up the river, through this cut, and their egress could be made by the upper cuts; and, by boats going down, the entrance could be made by the upper and egress by the lower cut.

On the 14th October I concluded a contract for removing the earth above water necessary for the enlargement of the entrances of the outlet and cut through Bass island, and forwarded a copy of the same to the Topographical bureau. The contractor, however, was not able to finish his work, owing to an unusual rise of the river and the inclemency of the weather.

After having *completed my examinations* of the harbor, and reported

thereon to the Topographical bureau, I proceeded, according to directions, to St. Louis, and thence to Louisville, to make inquiries as to the facilities for constructing a dredge-boat, and on the 3d November reported from St. Louis that it would be better to have the boat built at Louisville.

I arrived at Louisville on the 8th, when I received instructions from the Topographical bureau not to enter into any arrangements for a dredge-boat until further orders.

On the 29th November I received orders from the Topographical bureau to furnish estimates of the probable cost of completing the improvements suggested by me for the harbor of Dubuque, which were forwarded on the 30th.

On the 22d December I received orders to make the necessary arrangements and have a dredge-boat constructed; and on the 25th, after having made the necessary inquiries as to the probable cost of materials, labor, &c., I suggested to the Topographical bureau that $20,000 be reserved of the appropriation for snag-boats and dredge-boats, for the construction of the dredge-boat.

Measures were immediately taken; and on the 7th of January, 1853, I reported that arrangements had been made with D. and J. Howard, of Jeffersonville, for the construction of the hull, framing, &c.; with William H. Granger, of Louisville, for the engines, castings, &c.; and with A. Van Devinter for bucket and bucket-chains—estimating the cost at $16,000.

I remained at Louisville superintending the construction of the dredge-boat until it was nearly completed, when, in the latter part of April, I repaired to Washington, when I received verbal orders from the Topographical bureau to proceed to Dubuque with the dredge and commence operations in the improvement of the harbor, in conformity with the plans I had suggested in my report of the 21st of October, 1852.

Having previously written for information on the subject, I was informed by telegraph, on the 1st of March, that two or more scows could be constructed at Dubuque by the 1st of May. I accordingly directed that they should be built, and immediately sent drawings and specifications to govern their construction. Disappointments in obtaining suitable timber were, however, met with, of which I was not apprized in time, and the scows were not commenced when I reached Dubuque with the dredge on the 21st May.

I immediately took measures to have the timber sawed and materials procured, and had workmen engaged on their construction by the 24th. Every effort was made to have them completed with as much expedition as possible, but it was the 1st of July before one of them was ready for operations; and the dredging was commenced on that day on the contemplated cut through the outer island opposite the upper cut through Bass island.

The water of the river was then nine feet above low-water mark, and it was hoped that it might be found practicable to make this cut entire by means of the dredge, as there was then sufficient depth of water on a greater part of the surface of the island to float the boat, *and the river still rising.* It was found, however, that the firmly-rooted *stumps, which covered* the ground in many places, presented great ob-

acles to the operations; and this, together with the want of scows and e rapid subsidence of the water, made it impossible to effect the re- ired excavations with the dredge. The work at this cut was conse- ently suspended when the water became so low that the dredge ould not float them; and from that time to the present it has been em- loyed in removing the obstructions which existed in the former im- rovements, and enlarging the channels for approaching the harbor.

The estimated amount of excavation above low water, in the cut rough the outer island, was 29,710 cubic yards, of which there re- ains about 20,000 cubic yards; and I have advertised for proposals to emove it by contract during the low stage of water this fall—the roposals to be received until the 15th instant. When this earth is re- oved, there will be no difficulty whatever in removing the remainder ith a dredge-boat during the high water of next spring, and thus per- ct the contemplated improvement to the harbor, by making it accessi- le at all stages of water to boats ascending or descending the river.

It is contemplated that the dredge-boat will be used as long as it can e advantageously employed this fall in removing obstructions and en- rging the channels, and also in enlarging and deepening the harbor, hich, in a low stage of water, is very contracted; and, by a judicious anagement with the use of the dredge-boat, the present appropriation ill be adequate. Very little can be effected without the use of a dredge, s all the improvements to be made, except the above-mentioned exca- ation through the outer island, consist in the removal of mud from the ottom of the channels and harbor, which is at times covered with ater.

In the construction of the dredge-boat, it was thought expedient so model it as to suit the general purposes for which it was intended; at is, the improvement of the Mississippi, Ohio, Missouri, and Arkan- as rivers, where it was supposed it would generally be employed in emoving the bars, whilst there was water enough in them to float the oat. For such use, experience has convinced me, it is well adapted. he arrangement of the machinery is good, and it is capable of exca- ating, in such material as is usually found on the bottom of these rivers, 00 cubic yards an hour, when working fairly over the material to be xcavated.

But experience has also found that it is not at all adapted to work narrow channels or confined harbors when it is contemplated to en- rge them, as this can only be done by working one bucket-chain at a me, and that under great disadvantages, as neither the dredge nor the ow which received the load have room to float so as to work the uckets with full force. It is impossible to keep the buckets in con- ant successive action against a bank which the boat has to approach bliquely, and the scows can very rarely receive more than half a load.

A different model should, therefore, be adopted for dredge-boats in- nded for the enlargement of harbors or channels, and for the removal f bars in the rivers; I would merely suggest that the hull be increased o as to lesson the draught of water.

I find that the steel bushings in the eyes of the links of the bucket- hains answer well *the purpose for which they* were intended, as they

preserve the links entire, and wear the bolts much less than they were worn before the bushings were introduced.

As the work for the improvement of the upper rapids has not yet been placed under my direction as agent, it would, I presume, be an act of supererogation to make any report on the subject, other than to state that I have, agreeably to your instructions, aided the officer put in charge of the surveys by your orders, by my counsel and advice, whenever I have been called on by him to do so, and have requested him to execute the surveys in such manner as to enable the agent who may have the work in charge to form a correct idea of the extent and nature of the contemplated impediments.

I am, with much esteem, your obedient servant,

JOSHUA BARNEY,
U. S. Agent.

Col. S. H. Long,
Supt. W. R. Improvements, Louisville.

APPENDIX D.

Office of Tennessee River Improvement,
Knoxville, September 1, 1853.

Colonel: I have the honor to submit the following report of the operations in the improvement of the Tennessee river since I took charge of it in April last, together with an estimate of funds necessary to complete it.

Soon after taking charge of the work, I made an examination of the river as far down as Chattanooga, (formerly Ross' ferry,) one hundred and eighty-eight and a half miles below Knoxville, to ascertain the effect, at a moderate stage of the water, of the improvements made some years ago by the State of Tennessee, and how far these improvements conformed to those recommended by Colonel Long, topographical engineers, in his report to the commissioners of the State. I was prevented, by a rapid rise of water in the river, from extending this examination to Kelly's ferry, the lowest point of the river contemplated in the act of Congress making the appropriation for its improvement. In the month of June I made an examination of the river as far down as the ferry, and the water being near its lowest stage, and the dams already constructed nearly bare, I had an opportunity to ascertain their positions; the effect they have had on the depth, direction, and velocity of the current, and their present condition. I found that in every case except one, at the *Suck*, the plans of improvement recommended by Colonel Long had been disregarded, and, in every instance, the dams constructed have either failed to give the requisite depth at low water, or have changed the direction of the channel, and given the current a velocity so great that steamboats require the aid of *warps* to stem it; and it is at imminent risk that flat-boats, in which all the produce of the country above Knoxville passes down the river, pass these *dams at all; and* frequent and serious losses have been sustained by

ı passing a dam—being forced by the current and wrecked upon
n below.
natural velocity of the current of the river is so great at most
points requiring improvement, that whenever the obstruc-
o be overcome are such that the requisite depth at low water
obtained without the aid of wing-dams, they should be dispensed
They would, if properly placed, cause but little impediment to
oats, which have the power to change their direction in most
ions of the current, but they endanger descending flat-boats;
re, the plan of improvement which will afford a sufficient depth
water for steamboats, without increasing the velocity of the
ıt so as to endanger descending flat-boats, is the one to be
d.
obstructions to the navigation of that part of the Tennessee
ontemplated in the act of Congress making the appropriation for
provement, *between Knoxville and Kelly's ferry*, arise from several
, all of which can be removed at an expense small in comparison
he importance of the trade that will pass through it when the
al regions of the river and its tributaries are brought into use.
are—
From the division of the river by islands, at various points, into
l channels, neither of which has the required depth, at low
, on the bars formed at the islands.
From ledges of rocks called *hog-backs*, which in many cases ex-
rom one shore to the other, and on which, at low water, there is
fficient depth.
From large rocks in the channel—some loose, and others fixed to
d of the river.
. From trees which project from the shore on the boat channel.
. From the contraction of the river to a comparatively small
, forcing the whole body of water through a narrow channel, with
city so great that no steamboat can stem the current; this, with
rous rocks in the channel, constitutes the most formidable obstruc-
the navigation of the river—the Suck.
e first work in the order in which the improvement of the Ten-
e river was commenced under my instructions, is at the Knoxville
. Here, at extreme low water, there is not more than thirteen
s depth; over the bars a large portion of the water of the river
s between the islands and the left shore. The improvement
sary is the construction of two dams—one 480 feet long and 2 feet
between the islands; the other 460 feet long, from 2 to 4 feet
between the uppermost island and the left shore. These will
a sufficient depth of water on the bars which are situated near
ot of the second island.
is work was commenced on the 12th day of July; has progressed
ily since, and the whole of the dam between the islands is com-
l; and the upper dam, between the first island and the left shore,
enced on the 28th of August, will, if the stage of the water in the
continues favorable, be completed in the course of the present
h. In the mean time, the rocks most prominent on the bars will
moved.

The first improvement below Knoxville is at Lyons' shoals. The obstruction here is a rock bar 300 yards wide, having on it, at low water, but 19 inches. I have caused the dam constructed by the State to be thoroughly repaired, by placing heavy rock on it throughout its whole length, 1,350 feet; and an extension of 400 feet in length to be built to it, in a direction to bring the water into the channel over the bar before it can spread over the space below the dam; this will insure a sufficient depth at low water. The extension to, and repair of, the old dam were completed on the 30th of August.

The second improvement made is that at *Williams' shoals*. This consists of a dam across the slough between the first island and the left shore. Here the effect of the dam has been but little, because the water, after leaving it, passed around the first tow-head below it, and does not reach the boat channel. I have caused a dam to be built from the head of the main island to the second tow-head above it, which, in addition to the water of the river, will bring that which passes on the left of the tow-head into the boat channel, which is on the right of the main island. This will insure a depth of at least two feet at low water, and will not increase the velocity of the current so as to impede the passage of ascending steamboats, or endanger descending flat-boats.

Little River shoals.—The improvements made at these shoals, by the State of Tennessee, have not only failed to improve the navigation of the river at this point, but have closed the natural channel, always passable by steamboats and descending flat-boats, and have reduced the former to a channel through which they have to use *warps* in ascending and to stop their engines in descending, and the descending flat-boats of using every precaution in passing the upper dam to avoid being wrecked on the lower—a very difficult thing to accomplish after leaving the first dam, with the velocity given to the current by it.

The dams necessary at these shoals were two. The first to extend from a point 200 yards above the mouth of Little river, to a tow-head between the left shore and the main island; the other to extend from the tow-head to the head of the main island.

The first work done at these shoals this year was the removal of the dam on the right side of the channel, which closed the old channel, and the construction of a new dam 800 feet long on that side parallel to that channel. The work now in progress is the construction of the new dam between the tow-head, near the mouth of the river, and the head of the main island. The old dam between the left shore and the tow-head alluded to above, 770 feet in length, has been thoroughly repaired, by placing heavy rocks on it throughout its whole length. To complete the work at this point, it is contemplated to remove 270 feet of the lowermost dam, which extends from the large island towards the right shore, which will increase the space, in passing the dams, to — feet, and thus render descending flat-boats more secure; and the materials taken from this dam will be used in rebuilding and replacing others which require it.

Wright's shoals.—The obstructions here consist of two bars—the first at the head of Wright's island, the other near the foot of it. The upper bar has a depth of two feet four inches at low water over it; the *ower bar has* a channel over it of sufficient depth at low water, and

in width. All that is required at these shoals is the removal of ıic yards of rock to widen the channel over the lower bar, and en logs from it, and of impending trees from the shore of the

fall in the river at the upper bar is three feet four inches in a ; of 420 yards, and at the lower bar of three feet two and a inches in the distance of one-quarter of a mile.

shoals.—All that is required at these shoals is the removal of logs from the channel and of impending trees from the shore.

ll's shoals.—It is necessary to straighten the boat channel through ıoals by the removal of 460 cubic yards of rock and sunken n it; also, of impending trees from the shore of the river. The ugh these shoals is three feet eleven inches in a distance of one -eighth of a mile.

'a shoals.—These obstructions extend through a distance of a The first is a bar situated near the head of the main island, over he boat channel has a depth of but twenty inches at low water; iring the old dam. and giving it the necessary height, a sufficient f water will be obtained at this point.

ıext bar is distant from the first about three-quarters of a mile. the boat channel has a depth at low water of but sixteen inches. ɔair of the old dam built at this part of the shoals, and the re- f rocks from the channel below the dam, will insure the requisite f water.

een the dams built at these shoals there are bars of rocks, one h extends from the island to the left shore; a channel of suffi- dth and depth should be cut through this. The fall of the river shoals is, in one mile, three feet.

ials for this work have been contracted for, and it will be com- in the early part of this month.

's shoals.—The obstructions at this point consist of a gravel bar, xtends from the upper island to the right bank of the river, near ıe low-water boat channel is situated. Over this bar, a distance yards, the depth at low water is but twenty inches. This ion could be overcome by building a dam to extend from a point ıpper island above the bar obliquely towards the right shore, velocity of the water (three feet four inches in half a mile) is too r this means to be used; the remedy, therefore, is the excavation and gravel; the quantity necessary to be removed is estimated at ɔic yards.

v the middle of the second island another obstruction—a rock ch extends from the island to the right bank of the river—is The boat channel through this reef has a width of but 40 feet. sufficient width to it, it will be necessary to excavate about 175 ards of rock.

een the bars there are some detached rocks, and on the bank, ıich the channel is, some impending trees—all of which should ved.

sure a sufficient depth of water in passing the second island, it ɔed to close the slough *between the islands* by a dam 750 feet

long, 2 feet high. This work will be commenced this month, (September,) and completed this season.

Turkey Creek shoals.—The only obstructions at these shoals are a few sunken logs and rocks in the channel, which can be removed at small expense. The fall of the river in passing these shoals, in a distance of three-fourths of a mile, is 2 feet.

Shaw's shoals.—There is a sufficient depth of water at these shoals, but the channel is crooked, by rocky bars projecting from the island and the banks, which should be removed to straighten the channel.

About 500 yards below the island there is another obstruction caused by three bars. The upper one is about 100 feet wide, and has 20 inches water over it at low water; the second is 50 feet wide, and has only 18 inches water over it at low water; the third is 40 feet wide, and has but 18 inches water on it at low water. A short distance below these there is a reef of rocks extending clear across the river, on which the channel has a width of but 40 feet. The improvement necessary for the latter obstruction is the removal of rock and gravel from the channel, to give it sufficient width and depth. The quantity of rock to be excavated will be about 460 cubic yards. The fall in the river here is 3 feet 6 inches in one and a half miles.

Bustle's shoals.—There is sufficient depth of water at these shoals except at two points, at which there are reefs of rocks extending clear across the river. There are also a few detached rocks, which should be removed. The quantity of rock to be removed, to straighten the channel and to excavate a channel of sufficient width and depth through the reefs, is estimated at 275 cubic yards. The fall of the river at these shoals is 8½ inches in 513 yards.

Belle Canton shoals.—There is sufficient depth at these shoals at the lowest stage of the water in the river. All that is required is the removal of a few sunken logs and rocks from the channel and impending trees from the shore. The fall in the river here is one foot in five-eighths of a mile.

Lenoir's shoals.—These shoals are situated at the confluence of the Holston and Little Tennessee rivers. The obstruction consists of a bar 250 feet wide, extending from the island to the right shore, through which the boat channel has a width of but 40 feet. There is another channel of sufficient depth near the lower mouth of the Little Tennessee, which is frequently used by ascending steamboats. The improvements required here are widening and deepening the boat channel across the bar, and removing sunken logs from the channel at the mouth of the Little Tennessee.

Browder's shoals.—The obstruction at this point consists of a reef of rock near the foot of a small island of the same name, extending from one shore of the river to the other, having a depth of but 12 inches water at the lowest stage. The improvement necessary is to cut a channel of sufficient width and depth near the present boat channel. The quantity of rock to be removed will not exceed 160 cubic yards.

Carmichael's shoals.—There is sufficient depth of water on these shoals near the right bank of the river, the only obstructions being logs sunk in the channel and trees overhanging it. These should be removed.

Winding shoals.—The only obstructions to be removed at this point are about 60 cubic yards of rock in the boat channel, together with a few sunken logs and impending trees from the shore. The fall in the river is three feet in a distance of one-fourth of a mile.

Harrison's shoals.—There is a sufficient depth of water at these shoals. All that is required is the removal of several hog-back rocks from the boat channel. The fall of the river is 4½ feet in the distance of half a mile.

Creesey's shoals.—There is sufficient depth of water at these shoals, the only obstruction being a few hog-back rocks and sunken logs, which can be removed from the channel at a small expense.

Sweet-water shoals.—The obstructions at these shoals consist of a bar of rock and gravel at the foot of an island of the same name, and hog-back rocks near the head of it. The depth of water across the uppermost bar is about 20 inches, and across the lower about 30 inches, at low water. The best mode of improvement at these shoals will be by excavating a channel of sufficient width and depth across the upper, and removing the rocks from the channel across the lower bar.

Bogart's shoals.—The shoals at this place are about 510 yards in extent, near an island of the same name. There is also a reef of rocks, 15 yards in width, extending across the river at the head of the shoals, and another of near the same width at the foot. The channel through the shoals is crooked. To straighten the channel, and to give it sufficient depth on the bars, will require the removal of about 260 cubic yards of rock.

Pond Creek shoals.—The only obstruction at this place is a few hog-back rocks, estimated at about fifty cubic yards, which should be removed. The depth of the low-water channel is twenty-four inches.

Bailey's shoals.—A low-water channel of sufficient depth can be obtained by the removal of about fifty cubic yards of rock and impending trees from the right shore, near which the boat channel is.

The Seven Island shoals.—The obstructions at this place are, first, near the head of the first island, where there is a gravel bar, extending nearly across the slough, on which the channel, which is close to the right shore, is obstructed by sunken logs, which should be removed. About half a mile below the head of this slough there is a bar of rock, on which at low water there is but twelve inches depth; and opposite the two lowermost islands there is a gravel bar, on which there is but fifteen inches at low water. It will be necessary to remove the logs from the bar at the head of the slough, to cut a channel of sufficient width and depth through the bar of rocks, and to build a wing-dam 130 yards long, 2 feet high, to concentrate the water on the lower bar, to extend from the lowermost island towards the right bank.

Big Island shoals.—At this place dams have been built. The height given to them was not sufficient. By repairing them, and increasing their height in a necessary degree, an adequate depth at low water will be obtained throughout the shoals, which are situated, the first at the head of the slough used by boats, the second about two miles below.

Caney creek.—The obstructions at these shoals extend through a distance of nearly four miles. They are caused by numerous rock bars, over which the depth of the low-water channel is but twelve inches.

The shoals commence near the head of Caney island, at which a rock bar of fifty-five yards width extends across the river. The boat channel across this bar is near the right shore. The channel passes along the right shore to the mouth of Caney creek, where it turns to the left, passes near the foot of the island to the left shore of the river, along which it is situated, until it passes the foot of the shoals.

The improvement necessary here is the construction of two dams, one between the head of the large island and a smaller one near to it, and another short dam between the latter island and the left shore. These dams will insure a sufficient depth in the low-water channel. In addition to these improvements, it will be necessary to remove sunken logs and about sixteen hundred cubic yards of hog-back rocks.

From the lower end of the island to the foot of the shoals there are several projections of rocks on the channel, which are obstructions at the lowest stage of the water. These will be removed in the course of this and the early part of the next month, and in May thus obtain a sufficient depth of water; if not, then by contracts already entered into, the materials for constructing the dams necessary will be ready, and should the stage of water continue favorable long enough, they will be completed before the close of the working season.

King's shoals.—At this place there is a bar of rock near the middle of the river, which is exposed at low water. From this bar there are several ledges which extend to either shore. The requisite depth at low water may be obtained by removing about one hundred and ten yards of rock.

About half a mile below the first shoal there is another, which extends across the channel. Here the removal of sixty cubic yards of rock will be necessary.

Winton's shoals.—These are amongst the most formidable obstructions in the parts of the river to which the present appropriation is to be applied.

The river is divided into two sloughs by an island called Winton's or Crescent island. The boat channel is in the left slough. At the head of this island are two others, separated from it, the first by a slough ninety yards wide; the uppermost from the latter island by a slough of the same width. The deepest channel is situated between the two small islands. The width of the main slough of the river is four hundred yards, and is on the right of all the islands; that of the slough between the islands and the left shore varies from one hundred and fifty to two hundred and fifty yards.

The main slough is obstructed by numerous hog-back and other rocks, some of which cross and others project into the channel. The slough on the left of the islands has no other obstruction than the shoalness of the water and a ledge of rocks at the lower end of the island, near the head of the uppermost island; and between the two small islands and the shore there are a few hog-back rocks to be removed.

The improvements necessary at these shoals are, the construction of a dam one hundred yards long, three feet high, between the head of the large island and the small one next above it; a dam one hundred and fifteen yards long and four feet high between the two small islands; *and a dam three* hundred yards long and three feet high, extending

e head of the uppermost island obliquely towards the right shore
iver.
dition to the above improvement, it is proposed to widen the
through the ledge of rocks below the large island, and to ex-
e opening towards the left shore, so as to avoid the short turn
cessary around the foot of the island. The quantity of rock to
ved is estimated at one hundred and seventy cubic yards. The
te fall of the river in the left slough, through a distance of five
alf miles, is three feet.
Creek shoals.—The difficulties of navigation at these shoals are
by the crookedness and shoalness of the boat channel at low
nd the number of fast and loose rocks in the channels. The
divided into two sloughs, by two tow-heads and two islands.
in slough is on the right of these tow-heads and islands, and has
age width of 450 yards; the slough between the islands and
bank affords the best channel for navigation, and was improved
State of Tennessee, some years ago, by constructing dams con-
the tow-heads and islands. These dams require repairs, which,
e removal of rocks 25 cubic yards from the channel, will insure
isite depth at low water.
pie's shoals.—The obstructions here are caused by a bar of rock,
xtends nearly across the river, and is situated near Gillespie's
nd another bar, 600 yards below the first, and extends about
urths the way across the river. The passage around the point
rst bar, although narrow, affords the best water. The improve-
cessary at these shoals is the removal of rock from the ends of
, and of loose rock from the channel.
n's shoals.—The obstruction here is a bar of fast rock, which
from Walton's island to the right shore, over which the boat
has a depth of but 16 inches through a distance of 50 yards.
ly improvement necessary at these shoals is to deepen the chan-
blasting rock. The quantity of rock to be removed is estimated
cubic yards.
fall of the river at these shoals is about 2 feet 1½ inch in 1,400

' shoals.—The obstruction here is a gravel bar, which extends
e shore to the other. The only improvement necessary is to
te a channel through the bar of sufficient width and depth.
field's shoals.—These shoals extend through a distance of 2½
At two points—the first at the head, the other near the foot of
l—it is necessary to remove rock to give the channel sufficient
t low water; also, sunken logs from the channel between the
d impending trees from the bank of the river.
descent of the river, in a distance of 2½ miles, is 2 feet 4 inches.
's shoals.—The difficulties of navigation at these shoals are caused
erous bars of rock, which project from either side of the river,
der the boat channel very crooked. At the lower end of the
here is not a sufficient depth at low water; and there are also
hog-back rocks in the channel.
best method of improving these shoals is to open a channel,

near the present boat channel, of sufficient width and depth: to effect which it will be necessary to excavate about 1,320 cubic yards of rock.

The descent of the river at these shoals is three feet in one mile.

Hiwassee shoals.—The depth at low water over these shoals is twenty inches. It may be increased to two feet by building a wing-dam, one hundred yards long and two feet high, to extend from a point of the island near the bar obliquely towards the right bank of the river. This, together with the removal of a few snags from the channel, is all the improvement necessary at this place.

Sale Creek shoals.—Clearing the channel of sunken logs, and the bank of the river of impending trees, is all that is necessary to be done at these shoals. If, after this is done, there is not sufficient water, then a dam, 200 yards long and two feet high, extending from the head of the lower island, parallel to the right bank, will insure it.

Sanda shoals.—The boat channel at these shoals is very crooked, rendered so by hog-back rocks, and in several places is obstructed by rocks in it.

The improvement required at these shoals is the construction of a dam 125 yards long and 4 feet high, commencing at the head of the uppermost island, and to extend obliquely up stream towards the left shore of the river. A dam, 4 feet high, should be constructed between the two islands. A third dam should be constructed from the foot of the main island, parallel to the right shore, to extend a distance of 450 yards—the object of which is to turn the water, which passes the foot of the island in the present boat channel, into the channel near the right bank of the river.

In connexion with this improvement, it will be necessary to remove a number of rocks from the slough near the foot of the main island, and at another point, 600 yards from the foot of the island, near the right bank of the river.

Before commencing the construction of the last-mentioned dam, but after completion of the two first, the rocks and other obstructions should be removed from the points near the foot of the main island, and below it near the right shore.

The fall of the river through these shoals, a distance of 2¾ miles, is 3 feet.

Opossum Creek ripple—The only improvement necessary at this place is the removal of a few rocks and logs from the channel, and impending trees from the bank of the river.

North Chickamango shoals.—The removal of sunken logs from the channel, and of impending trees from the bank, is all that is required at this place.

South Chickamango shoals.—The obstructions to be removed are hog-back rocks and sunken logs from the channel, and of trees which overhang it from the banks of the river.

Ross' First shoal.—There are two obstructions at this place. The first is a gravelly pebble bar situated near the head of Ross' island, over which, at low water, the boat channel has a depth of but fifteen inches; a similar bar is found about one-third of its length from the head of the island. The improvements necessary here are the construction of a dam two hundred and ten yards long and three feet high, to ex-

tend from the head of the island obliquely towards the left bank; this, together with the removal of sunken logs, will insure a depth of at least two feet water in its lowest stage.

Ross' Second shoal.—The obstructions at this place consist in a ledge of rocks which extends across the river above the head of *Ross' island;* and another, at the foot of the same island, occasioned by the division of the river into several narrow channels by sand and gravel bars.

The improvement necessary here is, blasting rock from the ledge above the head of the island, in and near the boat channel, clearing away sunken logs and impending trees. If this should not effect the object, the velocity of the water through the shoals will not be rendered too great if a wing-dam were built, two hundred yards long, three feet high, to extend from the head of the island obliquely towards the head of the right shore of the river. This will increase the volume of water to pass over the impediment at the foot of the island, and give it velocity sufficient to clear them away.

The fall of the river here is ten inches in a distance of three-eighths of a mile.

The Tumbling shoals.—The obstructions at these shoals consist of a rapid current, a narrow, crooked low-water channel, and of numerous rocks, fast or loose, in and near the channel. In a high stage of the water, where it spreads over the area on either side of the channel, and there is sufficient vent for the water from the eddy, these cease to be obstructions.

The difference between the levels of the head and foot of the shoals is two feet four inches in a distance of one-quarter of a mile. The average width of the channel through the shoals is fifty-five feet, that of the eddy above them about eight hundred feet. It is only necessary, therefore, to reduce the level of the head of the shoals to near that of the foot to increase the width of the low-water channel to near that of the eddy above; and to remove the rocks from the channel by these means, it is believed that the obstructions at these shoals will be entirely removed.

The Suck.—The great difficulty to navigation at this point is much greater than at any other between Knoxville and Kelly's ferry, and to overcome which much greater expense must be incurred, from forcing an immense body of water, collected in an eddy five hundred feet wide and varying in depth from eighteen to fifty feet, through a rocky passage one hundred and fifty feet wide, and in which there is a fall of four feet four and a half inches in a distance of one thousand nine hundred and forty feet.

The only plan of improvement, it appears to me, that will insure success, and enable boats to ascend through the *Suck* without the aid of warps, as they do now through the canal constructed some years ago, and which cannot be used in the lowest stage of the water at all, is to reduce the level of the foot of the eddy to near the same as that of the foot of the *Suck;* to increase the width of the *Suck* to near that of the eddy, and to remove the rock in the *Suck;* thus increased in width to a depth of three feet below the surface of the water.

The plans that I would propose for the improvement are—

1st. To excavate a channel three hundred and thirty feet wide, which after completion shall be but four inches higher at the foot of the eddy than at the foot of the *Suck*.

2d. To equalize the levels of the eddy and foot of the *Suck* as nearly as in the first plan, and to excavate a channel forty feet wide.

The latter would be much the most expensive plan, but I have no doubt of its success, and that it would enable boats to ascend without the aid of warps. The first might be tried, and if it does not afford sufficient vent for the water, and reduce its velocity so that boats can ascend without difficulty, then the work can be continued at once, as the failure to effect this purpose will be seen, and the second plan carried out.

I have inserted in the table of estimates an estimate for each plan separately.

I could not carry out the survey of the Pot, the Skillet and the Pan, and have therefore made no estimate for them in the report.

I am, very respectfully, your obedient servant,

J. W. McCLELLAN,
Brev. Lieut. Colonel, Captain Top. Engineers.

Col. J. J. ABERT,
Chief United States Topographical Engineers.

Estimate of funds required to complete the improvement of the Tennessee river dam.

Localities.	Length of dams in feet.	Average height of dams in feet.	Cost of dams per lineal foot.	Cost of dams.
Knoxville shoals	900	2	$2 25	$2,025 00
Lyons's shoals	300	2	2 25	675 00
Williams's shoals	700	2	2 25	1,575 00
Little River shoals	1,500	2	2 25	3,375 00
Choata shoals	1,620	Repairs.	1 50	2,430 00
Booth's shoals	750	2	2 25	1,687 50
Bogart's shoals	480	Repairs.	1 50	720 00
Seven Island shoals	360	2	2 25	810 00
Big Island shoals	870	Repairs.	2 25	1,957 50
Caney Creek shoals	2,310	2	2 25	5,197 50
Winton's shoals	1,500	2½	2 81¼	4,218 75
White's Creek shoals	1,920	Repairs.	1 50	2,880 00
Hiwassee shoals	300	2	2 25	675 00
Sale Creek shoals	600	2	2 25	1,350 00
Sanda shoals	1,650	3	3 37½	5,568 75
Ross's 1st shoals	630	3	3 37½	2,126 25
Ross's 2d shoals	600	3	3 37½	2,025 00
Total	16,990	.....	.....	39,296 25

ESTIMATE—Continued.

Estimate for the removal of snags, sunken logs, &c.

Localities.	Rock—number of cubic yards.	Cost per cubic yard.	Amount.	Cost of removal of logs, trees, snags, &c.	Total.
Knoxville shoals	20	$2 25	$45 00	.....	$45 00
Lyons's shoals	50	2 25	112 50	$40 00	152 50
Williams's shoals	40	2 25	90 00	50 00	140 00
Little River shoals	250	2 25	562 50	.....	562 50
Wright's shoals	150	2 25	337 50	100 00	437 50
Low's shoals	.....	.....	.....	30 00	30 00
Russell's shoals	460	2 25	1,035 00	50 00	1,085 00
Turkey Creek shoals	60	2 25	135 00	70 00	205 00
Choata shoals	200	2 25	450 00	80 00	530 00
Booth's shoals	250	2 25	562 50	50 00	612 50
Shaw's shoals	460	2 25	1,035 00	.....	1,035 00
Bustle's shoals	275	2 25	618 75	.....	618 75
Belle Canton shoals	30	2 25	67 50	50 00	117 50
Lenoir's shoals	450	2 25	1,012 50	100 00	1,112 50
Browder's shoals	160	2 25	360 00	.....	360 00
Carmichael's shoals	.....	.....	.....	60 00	60 00
Winding shoals	60	2 25	135 00	120 00	255 00
Harrison's shoals	150	2 25	337 50	.....	337 50
Creesey's shoals	40	2 25	90 00	20 00	110 00
Sweet-water shoals	200	2 25	450 00	100 00	550 00
Bogart's shoals	260	2 25	585 00	.....	585 00
Pond Creek shoals	50	2 25	112 50	.....	112 50
Bailey's shoals	50	2 25	112 50	40 00	152 50
The Seven Island shoals	200	2 25	450 00	100 00	550 00
Big Island shoals	40	2 25	90 00	40 00	130 00
Caney Creek shoals	2,000	2 25	4,500 00	140 00	4,640 00
King's shoals	170	2 25	382 50	40 00	422 50
Winton's shoals	200	2 25	450 00	250 00	700 00
White's Creek shoals	25	2 25	56 25	80 00	136 25
Gillespie's shoals	200	2 25	450 00	60 00	510 00
Walton's shoals	420	2 25	945 00	.....	945 00
Wills's shoals	80	2 25	180 00	40 00	220 00
Goodfield Creek shoals	100	2 25	225 00	140 00	365 00
Kelly's shoals	1,320	2 25	2,970 00	.....	2,970 00
Lea's shoals	.....	.....	.....	40 00	40 00
Hiwassee shoals	.....	.....	.....	60 00	60 00
Sale Creek shoals	50	2 25	112 50	250 00	362 50
Opossum Ripple shoals	100	2 25	225 00	70 00	295 00
Sanda shoals	360	2 25	810 00	150 00	960 00
North Chicamanga	.....	.....	.....	120 00	120 00
South Chicamanga	150	2 25	337 50	200 00	537 50
Ross's First shoals	.....	.....	.....	60 00	60 00
Ross's Second shoals	240	2 25	540 00	70 00	610 00
Tumbling shoals	400	.....	900 00	.....	900 00
Total	8,820	.....	2,187 00	2,870 00	24,740 00

Estimate for widening the channel at the Suck—relative cost of a width of four hundred and forty feet, and of three hundred and forty feet.

	Proposed width of channel.	Number of cubic yards on side of channel.	Price per cubic yard.	Number of cubic yards in channel.	Price per cubic yard.	Amount.
The Suck	440 feet.	24,913	$1 50	16,296	$2 50	$78,109 50
Do	340 feet.	10,691	1 50	13,580	2 50	49,986 50
Difference						28,123 00

Hence the estimated cost of deepening the channel, so far as this operation depends on the removal of rocks, logs, trees, &c., as shown by the foregoing table, is	$24,740 00
And the estimated cost of improvements, by building and repairing dams, is	39,296 25
Also, the estimated cost of improving the *Suck*, so as to have a width of 440 feet.	78,109 50
	142,145 75
To this amount should be added 10 per cent. for contingencies	14,214 57
Which gives the aggregate cost of improving the navigation of the Holston and Tennessee rivers, between Knoxville and Kelly's ferry, in the manner herein proposed	156,360 32
Deduct balance of the appropriation for the improvement of the Tennessee river, passed the 1st session of the last Congress	36 301 00
Leaving a balance of funds necessary to be obtained to complete the improvement of the navigation of the river, in the manner herein proposed, of	120,059 32
The estimated cost of deepening the channel, so far as this operation depends on the removal of rocks, logs, trees, &c., as shown by a foregoing table	$24,740 00
And the estimated cost of improvement, by building and repairing dams	39,296 25
Also, the estimated cost of improving the *Suck*, so as to have a width of 340 feet.	49,986 50
	114,022 75
To this amount should be added, for contingencies, 10 per cent	11,402 27
Which gives, for the aggregate cost of improving the navigation of the Holston and Tennessee rivers, between Knoxville and Kelly's ferry, in the manner herein proposed	125,425 02
Deduct balance of the appropriation for the improvement of the Tennessee river, passed at the last session of Congress	36,301 00
Leaving a balance of funds necessary to be obtained to complete the improvement of the navigation of the river, in the manner herein proposed, of	89,124 02

APPENDIX E.

SAN DIEGO, CALIFORNIA, *April* 10, 1853.

SIR: I have the honor to report, that in compliance with your instructions of the 1st of November, 1852, I have made "an accurate survey of the locality involved in the project of building a levee across San Diego river for the purpose of changing its course;" and have prepared five plans, with estimates of their probable cost, for that purpose.

I transmit herewith the following maps and documents:

1. An accurate map, on a large scale, of the mouth of San Diego river and its vicinity, on which is delineated a plan of the line which I propose for the new bed of the river.
2. A map of San Diego river and harbor, enlarged from a small chart of the coast survey, with the soundings made by me put down in red ink, showing the alteration that has taken place in the harbor during an interval of eight months.
3. Profile of the proposed bed of the river.
4. Profile of the present bed of the river.
5. Plans and estimates for changing its course.
6. Memoir of the San Diego river from its source to its mouth.

During the interval that will elapse before receiving further instructions from the bureau on this subject, I shall make duplicate maps of the river and harbor, and prepare my notes and field-books for transmission.

In collecting information for the memoir of the river, I have been much indebted to the Hon. J. J. Warner, an old and well-known resident of this part of California, whose statements on the subject may be considered perfectly reliable.

I am, sir, with great respect, your obedient servant,

GEORGE H. DERBY,
Lieutenant Topographical Engineers.

Col. J. J. ABERT,
Chief Corps Topographical Engineers.

Memoir of the San Diego river.

SAN DIEGO, CALIFORNIA, *March* 30, 1853.

The San Diego river has its source in a small lake or pond called Cuyamaca, about forty miles W. S. W. of San Diego bay, and some twenty miles south of the point called Aqua Caliente. This lake is situated in a valley circumscribed by the range of mountains (bordering the coast) which separate the waters flowing into the Pacific from those discharging into the river Colorado. It is surrounded by an extensive marsh and forest.

In seasons of extreme drought the lake becomes entirely dry, at which time the bed of the river is dry also throughout its extent, with a few exceptions where the water flows for a short distance, and then, sinking in the sand, disappears.

The tributaries of the river are unimportant mountain streams, e

the portion of country drained by it of small extent; as on the northwest, at a short distance, it has the streams of Soledad, San Diegoita, and San Luis Rey; and on the southeast the Sweet-water, all of which empty into the ocean.

The entire bed of the river from source to mouth, with the exception of two points, is of light drifting sand. At these points—one about twelve miles from San Diego, and the other fifteen miles above—the mountains come down to the river on either side, forming high and precipitous banks, about one mile in length at each place; and here the bed of the stream becomes hard and rocky.

With these exceptions the banks of the river are low, alluvial bottoms, varying in width from one to five miles, and mostly destitute of forests or shrubbery. The soil of these bottoms is fertile, and they afford excellent pasturage, and are available for agricultural purposes.

Above the first cañon or gorge spoken of the bed of the river is never dry, except in seasons of extreme drought. At the Mission, six miles from San Diego, it is usually dry during the months of August, September, and October; and at San Diego, for six months during the year, commencing about the 1st of May and terminating in November.

It usually commences running about the 1st of November, or immediately after the commencement of the rainy season; and from this time, until the first of the following March, freshets are of frequent occurrence.

During the summer months the country about the sources of the river is subject to severe thunder storms, which bring down to its bed from the high and rugged mountains immense quantities of sand, which the winter freshets carry towards its mouth.

The ordinary rapidity of the current is from two to three miles per hour, and its greatest ordinary depth from two to three feet; but during a freshet it increases its velocity to five miles, and its depth to six and even eight feet.

Like all streams with sandy bottoms, it has a wide channel in proportion to its length, the distance between its banks varying from one hundred to four hundred feet.

By reference to the maps it will be seen that a large sandy plain separates the False Bay (Puerto Falso) from San Diego harbor. At the time of the first establishment of the Mission of San Diego, and the "Presidio," or military post, this plain, and in fact the whole valley for six miles above, was covered with a dense forest of sycamore, willow, and cotton-wood, with an undergrowth of various kinds of shrubbery, among which the wild grape was most abundant. At this time the river ran through the most northerly part of the plain, skirting the hills represented on the plan, and emptied into False bay. This course it continued until 1811, when, by the continued deposit of sand, its bed was so much elevated that it altered its channel to the southwest, still however emptying into False bay, until 1825, when a great freshet occurring it overflowed its banks, destroying many gardens and much property, and formed a new channel discharging into the harbor of San Diego. From the continued accumulation of sand its course has somewhat fluctuated, but has never been essentially *altered since that period.*

Judging from the topography, it may be supposed that the False Bay and San Diego harbor were originally one sheet of water, the sandy plain now separating them having been formed by the deposits of sand from the river; if this was the case, it was before the settlement of this part of the country, as none of the old Spanish residents remember, or have any tradition of such a thing. I have, however, been told of the existence in San Francisco of an old Spanish chart on which the bays are thus represented.

Before 1810 the False bay was sufficiently deep to admit of the ingress of vessels of very considerable size; at present it is filled with shoals and sand bars, and has hardly sufficient water at low tide for an ordinary sail-boat.

The gradual inroad upon the channel of the harbor, caused by the deposits of the river, has been noticed from year to year since 1825, and the local authorities, alarmed for the harbor, have made frequent attempts to turn its course, some of which have for a time been successful; but as the barriers used were merely sand and brushwood, they were soon worn away, and of late years the attempt has been abandoned.

It will be seen that the river is not deep but rapid, the current moving with about the same velocity at the bottom as on the surface.

It not only forces along a bed of sand at the bottom, but is continually excavating its banks and its bed, and the current continually changing, the sides of the furrows, formed rapidly, fall and swept along; thus moving tons of sand a few feet in as many minutes.

By sounding the bank of the river, in many places I find six feet and a half of light sand; below this about two feet of bluish mud—which has a strong smell of sulphuretted hydrogen—and then clay.

It is noticeable, also, that the sloughs emptying into False bay (into one of which I propose to turn the river) are half-filled with fresh water at low tide; and the people of San Diego inform me that water may always be obtained by digging four feet in the bed of the river when apparently dry in the summer. From these facts, I conclude that the whole of the plain has a substratum of quicksand, through which the water penetrates at all seasons of the year. This will render necessary a great deal of excavation, as any barrier would soon be undermined if built on such soil.

Considering the general character of the river, continually filling its bed by deposits of sand, and then changing its direction to find a lower level, liable at any time of freshet to overflow the whole of the plain between the two bays, and cut itself a new channel into one or the other, it appears to me that the only way to insure its permanently directing its course to the False bay is to build a bulkhead, or construct a levee from the high hill on its left bank, on which are the ruins of the old Presidio, the entire distance, (6,220 feet on the line A B,) across to one of the larger sloughs, making the work of sufficient height (say eight feet above the ordinary level of the river) to insure its never being overflown.

This course, though very expensive, would prove effectual, as the river would have no opportunity of breaking in any direction towards

the harbor, it being securely environed by the high land on the north and west.

As the expense of building a barrier of this description far exceeds the amount of the present appropriation, I submit a plan for constructing a levee of shorter extent to turn the course of the stream, and then to continue the work by cutting a ditch through (on the line A B) for the bed of the river, throwing up the sand excavated on the southern side to form a bank, which may prove successful in retaining the channel permanently after it is once turned.

It is a matter of regret, however, that sufficient appropriations have not been made to construct the levee entirely across, as a work of so much importance, preserving from utter destruction one of the finest harbors on the Pacific coast, should, when done, be done thoroughly.

Respectfully submitted.

G. H. DERBY,
Lieutenant Topographical Engineers.

Plans and estimates for turning San Diego river, causing it to discharge into False bay.

1st. On the line A B to erect a bulkhead, by driving piles at an angle of 60° with the horizon, five feet apart from centre to centre, each second pile to be braced to the rear as in figure 1st, and the up-stream surface to be sheathed with three-inch plank well spiked on, an excavation being first made throughout the line A B, to permit the planking to commence below the quicksand.

Estimate.

7,490 yards of excavation, at $1 20 per yard	$8,988
1,264 redwood piles, 30 feet, at 60 cents, $15	18,960
Driving piles, 1,264, at $12	15,168
(101 × M. surface) 3-inch plank, 304 M., at $70	21,280
50 kegs of spikes, (8-inch,) at $12	600
Spiking on plank, $2 50, for 20 feet length	790
632 braces, 6,320 feet, at 60 cents	3,792
	69,578

NOTE.—The prices annexed are the lowest furnished by several contractors applied to (for information) in San Francisco.

2d. From the point A, on the line A B, to throw up a levee or embankment of earth, to be taken from the Presidio hill near the point A, where an abundance of suitable gravel, mixed with large and small stones, may be obtained. The levee to be three feet on the upper line of its cross section, eight feet perpendicular, and twenty-seven feet

base, with a substructure of gravel twenty-seven feet wide and eight feet thick, as in figure 2d.

Estimate.

Excavation for foundation, 50,560 yards sand, at $1 20..	$60,672 00
Embanking foundation, 50,560 yards gravel, at $1 20..	60,672 00
Embanking levee, 28,088 yards gravel, at $1 20.....	33,705 60
	155,049 60

NOTE.—Either the line A B or A C may be used, but it is believed that the former is preferable, the slough commencing at B being much wider and deeper than that at C, and being also protected on the south by high land.

The direction of the line A B is also preferable, as will be seen by reference to the map.

3d. From the point A to the point D, on the line A B, to erect a bulkhead, as in plan 1st. From the point D to the point B, to excavate a canal for the new channel of the river twenty feet wide, its bed sloping regularly from the bed of the river to the bed of the slough at B, the sand excavated to be thrown up on the south bank of the canal.

Estimate.

For bulkhead excavation, 1,920 cubic yards, at $1 20...	$2,304 00
324 piles, at $15	4,860 00
Driving piles, at $12, (324)	3,888 00
78 thousand 3-inch plank, at $70	5,460 00
Spiking plank and spikes	300 00
162 braces, 1,620 feet, at 60 cents	972 00
Excavation for canal, 13,926 yards, at $1 20	16,711 20
	34,495 20

From the point A to the point D, on the line A B, to throw up a levee as in plan 2, with the same foundation. From the point D to the point B, to excavate a ditch for the new channel of the river 20 feet wide, its bottom sloping regularly from the bed of the river to the bed of the slough at B, the sand excavated to be thrown up on the south bank of the canal.

Estimate.

Excavation for foundation, 12,960 yards, at $1 20.....	$15,552 00
Excavation for canal, 13,926 yards, at $1 20.....	16,711 20
Embankment of levee, 7,200 yards, at $1 20.....	8,640 00
	40,903 20

There can be no doubt but that this work will "turn the river and cause it to empty in False bay," and probably it might continue to empty there when turned; but in case of a great freshet the south bank of the canal would perhaps be undermined, and the river again alter its course.

4th. From the point A, on the line A B or A C, to put in a row of iron screw piles, thirty feet long, their surface covered with three-inch plank; this line to be continued to the point D or D′, and from thence a canal to be excavated as in No. 3.

The cost of these piles not being known, it is impossible to furnish an estimate of the expense of the work. They cannot be obtained in California at present.

Respectfully submitted.

GEO. H. DERBY,
Lieutenant Topographical Engineers.

—

San Diego, *April* 15, 1853.

During the last two days, the river having fallen considerably, I have caused soundings of the bed to be made with long iron rods on the lines A D and A D′. The average depth of the light, loose sand of the bed is from six to eight feet, under which are strata of different degrees of thickness (see profile annexed) of coarse sand mixed with gravel and small stones. On penetrating these strata I find the light and quicksand below. Sounding to a depth of thirty-five feet, I have been unable to reach the substratum of clay on solid earth which probably underlies the river bed.

The layers of gravel and sand passed through become more dense as the sounding rods are driven down. No appearance of clay has been found in these experiments, but on the banks, at various other points, (as mentioned above,) mud, impregnated with ammonia and blue clay beneath, was discovered, seven and a half feet from the surface. The layers referred to seem to me to be sufficiently solid to hold piles or support an embankment.

They could only be penetrated by repeated blows of a sledge-hammer on the sounding rods, made with such force as to bend and batter the rods in some instances.

The rods were round, of three-quarter inch iron.

I am not prepared to say that such a foundation is all that could be desired; but driving piles to a depth of 40 or 50 feet cannot be contemplated.

5th. The line A B being in the prolongation of the river, it is probable that if a dam was thrown across from it to D, and a ditch from that point to B excavated, the river would continue to empty into False bay, unless some extraordinary freshet, like that of 1825, were to occur. Even then it does not follow necessarily that the dam should be undermined, and the high sand bank, formed by excavation, overflown. This

dam and canal can be constructed for the amount of the present appropriations, provided that no excavation be made for a foundation, viz:

Estimate for plan 5.

For levee 1,600 feet long, 8 feet high, and 20 feet base, 5,452 cubic yards, at $1 20	$6,542 40
Excavating canal 20 feet wide, 4 feet deep, 4,700 feet long, 13,926 cubic yards, at $1 20	16,711 20
	23,253 60

NOTE.—The bulkhead, as in No. 1 of plan 3, might be adopted at smaller expense.

It is, moreover, very probable that responsible parties may be found who will contract to remove dirt for embankment and excavation for a much less price (perhaps $1) than $1 20 per cubic yard. This price has been inserted here as the maximum.

The same work could be executed on line A C for a smaller sum; but the river impinging on the levee nearly at right angles, it would soon be undermined.

Respectfully submitted.

GEO. H. DERBY,
Lieutenant Topographical Engineers.

Col. J. J. ABERT,
Chief Topographical Engineers.

APPENDIX F.

OSWEGO, N. Y., *September* 17, 1853.

SIR: I have the honor to submit the annual report, required by regulations, of the progress of the various works committed to my care on Lake Champlain, Lake Ontario, and Lake Erie. I would premise by stating that the work at each place was very much retarded by the neglect of the contractors to furnish materials at the time required by the contracts; there was not a single instance of punctuality.

The appropriations for each place being so limited, it was a very difficult matter to determine how to spend the money judiciously, as the decayed and ruined condition of many of the works was greatly beyond the means to restore them to their former condition.

Burlington, Vt.—The work at this place is a breakwater 1,069 feet in length and 35 feet in breadth, built of crib-work and ballasted with stone; it is placed immediately in front of the wharves of the town, in thirty feet water, and affords very good protection. I found it in very good preservation, and my instructions were to add one hundred feet in length to the north end, which has been done by sinking a crib of that dimensions, and will be completed *this fall.* The timber-work is at the present time *three feet above the surface of* the water.

I would respectfully recommend that two hundred additional feet in length be added to the north end; this will bring it under cover of a point of land to the north, and afford a shelter from northwestwardly gales. An estimate for that purpose is herewith submitted; a plan of the work has already been sent to the bureau by the agent.

Estimate.

232	sticks	round hemlock timber,	50	feet long	and 12 in. small end.	
54	do	do	48	do	do	
54	do	do	46	do	do	
54	do	do	44	do	do	
54	do	do	42	do	do	
186	do	do	40	do	do	
28	do	do	38	do	do	
28	do	do	36	do	do	
360	do	do	34	do	do	
428	do	white pine timber	35	do	do	

4,000 lineal feet square white pine, to square 18 inches, length 35 feet and over.
350 pieces white oak plank, 11 feet long, 3 inches thick, and 8 inches wide.
9,000 white oak treenails, 2 feet long, $2\frac{1}{2}$ inches square.
16,000 perches stone.
1,000 lbs. 8-inch wrought spikes.

43,072	lineal feet hemlock timber, at 8 cents	$3,445 76
14,980	do round pine, at 10 cents	1,498 00
13,000	cubic feet square pine, at 15 cents	1,950 00
7,700	feet white oak plank, at 25 cents	192 50
9,000	treenails, at 7 cents	630 00
16,000	perches stone, at 40 cents	6,400 00
1,000	lbs. wrought spikes, at 9 cents	90 00
1	boat, augers, rope, &c., &c	200 00
1	foreman 120 days, at $2 50 per day	300 00
10	carpenters 120 days, at $1 50 per day	1,800 00
14	laborers 120 days, at $1	1,680 00
Services of agents		1,460 00
Do	of assistant 120 days, at $3	360 00
		20,006 26

Survey of the harbor of Ogdensburgh.—It was not in my power to comply with my instructions to have the survey made, in consequence of being unable to procure the assistance of a proper person.

Oswego.—At this place the piers were in a very decayed condition; in many parts the timber had crumbled away and left the stone exposed.

In the month of November, 1852, a violent gale of wind caused a breach of 195 feet in length in the west pier, where it connected with the

masonry, throwing down a portion of the masonry, and leaving the west side of the harbor entirely exposed to the sea. The breach was protected by great exertions on the part of Lieutenant Franklin, of the topographical engineers. and the harbor made secure before winter.

This season the operations have been confined to rebuilding the west pier, from the point at which it was breached to the pier-head, and very good progress has been made.

At the present time, five hundred and ninety feet in length of the old work has been removed, of which one hundred and twenty feet has been entirely rebuilt, and wants only the planking; two hundred feet wants but one course of timber to complete it; and the remaining two hundred and seventy is from one to four feet above the surface of the water, the whole filled with stone. The character of the work done is of the very best description, and has been executed with great care and judgment, under the direction of Mr. Hatch, and will be completed before the winter. On the east side of the harbor a system of improvements connected with the east pier has been undertaken by individuals, under a grant from the State legislature, a description of which I quote from the report of Mr. Hatch, the agent.

In the year 1851 the legislature of the State of New York granted to the city of Oswego all the land under water lying in front of and adjacent to the land belonging to the United States on which Fort Ontario is situated, extending from the Cove property, so called, to the east pier. Subsequently the common council of the city procured from the honorable Secretary of War, Mr. Conrad, a recognition of their rights, under certain limitations. On the 2d day of August, 1852, the city of Oswego leased the said land under water to individuals on a permanent lease, restricting them to a plan of improvements indicated on a sketch of the harbor herewith submitted; which plan is now in a rapid course of realization; and will probably be completed during the present autumn. The lessees of this property have reconstructed nearly the whole of the superstructure of the east pier, and intend to complete it this fall.

The maintenance of the east pier being indispensable to the lessees to protect their works, and also convenient for their business as a wharf, they are willing to keep it in repair at their own expense. Permit me to suggest some of the reasons that I suppose influenced the legislature to grant and the Secretary of War to confirm the grant to the city. The prevailing winds are westwardly. Vessels making the harbor in westwardly gales of wind were liable to ground upon the shoals upon this property, there being no good anchorage within the harbor, and it not being possible at all times to make fast to the west pier. In fact, there had been annually more or less wrecks from this cause, and the loss of property averaged not less than $10,000 per annum. Another reason that doubtless had weight with the legislature and Secretary, was the fact that the improvements contemplated would add more than 5,000 feet to the wharf front of the harbor; an addition of the greatest value to the commerce of the port, as the wharf front is quite too limited for the present wants of commerce.

The east channel *pier was built last season*; and, during the gale

at that time, the work proved very useful in preventing any wrecks, as had heretofore occurred.

There was, however, an objection, which manifested itself, that was not anticipated. The reflux of the sea, from the east channel pier, caused so great a commotion of the water in the western portion of the harbor as to seriously injure the wharf property on that side. To obviate this objection, the common council have granted to individuals the privilege of constructing a pier upon the west side of the channel, which is now in process of construction, and will probably be completed before the winter.

This, it is believed, will effect the object intended, and will also add materially to the so much needed wharf-room. This work is also laid down upon the sketch submitted.

In the past five years the business of Oswego has at least quadrupled, and is annually increasing. The capacity of the harbor is very inadequate to the wants of commerce; and the necessity of constructing a more capacious harbor in the lake cannot be too strongly urged upon the government. Until this is done it will be necessary to keep in repair the existing piers; and I submit the following

Estimate for removing the unfinished masonry of the superstructure that was shattered by the storm of last winter, (part under water,) and rebuilding the same with timber and stone, as follows:

Removing old work:		
20 common laborers 60 days, 1,200 days, at $1		$1,200 00
2 overseers 60 days, 120 days, at $2		240 00
Blacksmith's work, making and repairing tools		200 00
Ship-chandler, for blocks, cordage, &c		200 00
Total for removing old work		1,840 00
Rebuilding:		
6,750 feet cubic measure pine timber, at 15 cents	$1,012 50	
750 feet cubic measure oak timber, at 25 cents	187 50	
10,500 feet board measure pine plank, at $12	126 00	
6,000 feet board measure oak plank, at 20 cents	120 00	
2,500 pounds 1-inch rolled bolt iron, at 5 cents	125 00	
2,000 pounds spike, at 6 cents	120 00	
400 white oak treenails, at 3 cents	12 00	
1,200 days common laborers, at $1	1,200 00	
600 days carpenters, at $1 50	900 00	
60 days each of overseer and master carpenter, at $2	240 00	
Blacksmith's work	100 00	
Total for rebuilding in breach		4,143 00
For rebuilding the top of the counter-forts inside of the pier, 325 feet long, 30 feet wide, and 5 *feet high:*		
11,625 cubic measure pine timber, at 15 cents	1,743 75	

28,250 board measure plank, at $12	$329 20	
1,500 lbs. 1-inch rolled bolt iron, at 5 cents	75 00	
1,000 lbs. spike, at 6 cents	60 00	
400 lbs. white oak treenails, at 3 cents	12 00	
12 mooring posts, at $10	120 00	
300 days common laborers, at $1	300 00	
120 days carpenters, at $1 50	180 00	
30 days each of master carpenter and overseer, at $2	120 00	
Blacksmith's work	50 00	
Total for rebuilding counter-forts		$2,989 95
For removing the large stone under water that have been washed from the top of the pier. One crab-scow, with captain and eight men, five months:		
Eight men 130 days, 1,040 days, at $1	1,040 00	
Captain of scow 130 days, at $2	260 00	
Chains, grapplings, ropes, &c.	500 00	
Blacksmith's work and repairs	150 00	
Total for removing stone under water		1,950 00
For rebuilding pier in the breach caused by the storm of last winter:		
12,540 feet cubic measure pine timber, at 15 cts.	1,881 00	
950...do.....do...oak...do... 25 cts.	237 50	
17,100 feet board measure pine plank, at $12	205 20	
7,600...do.....do...oak..do.... $20	152 00	
3,500 lbs. 1-inch round iron, at 5 cents	175 00	
3,000 lbs. spike, at 6 cents	180 00	
700 white oak treenails, at 3 cents	21 00	
4 mooring posts, at $10	40 00	
1,800 days of common laborers, at $1	1,800 00	
900 days carpenters, at $1 50	1,350 00	
2 overseers 60 days each, at $2	240 00	
1 master carpenter 60 days, at $2	120 00	
Blacksmith's work	100 00	
Total for rebuilding pier in breach		6,501 70
Compensation of agent for one year		1,440 00
		18,864 65
Contingencies, 10 per cent		1,886 46
Total for rebuilding pier and removing stone		20,751 11

Sodus bay of Cayuga county.—The entrance to this bay was so materially changed since the survey made in 1845, that it was useless to commence the work for its improvement on the plan originally proposed for it; a *resurvey was recommended*, which being approved by *the board of engineers, and ordered by the* bureau, has been made, and

the map transmitted to the bureau. Until a plan for the improvement of this harbor is made by the board of engineers, an estimate cannot be submitted.

Big Sodus bay.—The works at this place are in a very decayed condition. The east harbor pier is breached in many places from one to three feet below the surface of the water, and of the remainder the stone only shows above the water, the timber being entirely destroyed. The east channel pier was breached near the angle with the harbor pier. The west channel pier is in pretty good condition, the top timber decaying, but the planking sound. The west harbor pier is entirely destroyed to the water's edge, the stone remaining.

The appropriation being so limited and inadequate to the repairs required, I was very much at a loss where to begin, and how to expend it with most advantage; but considering that it was most important to preserve the entrance to the harbor, as there is abundance of room for shelter inside remote from the piers, and the entrance being in danger from the breach in the east channel pier, I determined to give my attention to it first. This breach has been rebuilt, and the new work carried past the angle a short distance, in order to secure it better. The top timbers of the channel pier were removed for some distance north from the breach, and planked out to where it was left unfinished in 1845.

The whole of the east harbor pier requires to be rebuilt, and the west harbor pier also, at least as far inland to where it is covered by the accumulated breach.

The following estimate is submitted:

Mouth of Genesee river.—The piers at the mouth of Genesee river were very nearly demolished. The west pier was breached in many places below the water, and the remainder showed but one timber above the water in places, and at others the stone only was to be seen. The east pier is in equally bad condition, being breached and decayed to the water's edge. A sketch is herewith showing the condition of the pier in 1853.

The west pier, on which the beacon-light stands, being considered the most important, I determined to commence with it. All the breaches have been filled with new crib-work, and a large portion of the remaining old work has been taken up and rebuilt; the whole pier will probably be finished this fall.

The east pier must be entirely rebuilt, and the following estimate is submitted:

Estimate.

Pine timber, 12 by 12	$6,600
Oak timber, 12 by 12	4,730
Three-inch pine plank	2,000
Stone ballast	800
Wrought-iron spikes	400
Bolt iron	2,000
Labor and tools	5,000
	21,530

Oak Orchard creek.—The piers at this place, although very much decayed, remained entire. There was no breach; and although not planked, the stone ballast was not washed out in any place. In two small places the stone had settled slightly. The alignment was perfect. This season ten new cribs have been added to the west pier, which lengthens it 290 feet, and the old work rebuilt. The new work will be planked.

The east pier requires to be rebuilt, and both piers should be extended into the lake to 18 feet depth of water; an estimate for this purpose is herewith submitted.

Estimate for building pier 30 *feet long and* 20 *feet wide in* 13 *feet* 3 *inches of water.*

3,010 feet hewn timber, 12 in. square, at 13 cents		$391 30
53 cords crib-ballast stone, at $3 25		162 25
1,305 feet pine plank, 3 in. thick, at $11		14 35
60 lbs. wrought spike, at 7 cents		4 20
864 lbs. 1½ in. rolled bolt iron, at 4½ cents		38 88
Mechanics and laborers		250 00
Total for building crib 30 feet long		860 98
For extending west pier 1,107 feet, as per above estimate		$32,865 68
For extending east pier 1,151 feet, as per above estimate		34,171 65
For rebuilding east pier, 373 feet long and 20 feet wide:		
7,829 feet timber, at 13 cents	$1,017 77	
15,785 feet pine plank, at $11	173 64	
783 lbs. spike, at 7 cents	54 81	
Mechanics and laborers	1,000 00	
Total for rebuilding east pier, 373 feet long		2,246 22
For rebuilding pier, 420 feet long and 10 feet wide:		
5,040 feet timber, at 13 cents	$655 20	
9,450 feet pine plank, at $11	104 95	
504 lbs. wrought spike, at 7 cents	35 28	
Mechanics and laborers	700 00	
Total for rebuilding 420 feet pier		1,495 43
		70,778 98
Contingencies, 10 per cent		7,077 89
		77,856 87

Buffalo.—The work at this place remained in the same condition in which it was left in 1846, without much deterioration, excepting the tow-path, which was broken in several places by vessels running into it. Operations were resumed in the month of May last, and since that time the face wall has been *raised 4.8 feet*, over a length of 368 feet, and 230 *feet of it coped one foot thick* and 4 feet wide; 320 feet of

the slope wall has been filled in 10 feet wide, and 386 of wall flagged 7 feet wide.

There has been laid 314 cubic yards of ashlea and bucking wall and coping; 355.5 cubic yards of exterior slope wall; 1,245.5 cubic yards stone filling; 3,938 superficial feet cutting of ashlea and coping; 3,259 feet of flagging cut; 300.89 yards of flagging laid; and 685 tons of stone transported from the quarry. There is required 350 feet additional length of wall to connect it with the old wall, which stands entire, and which will answer as well as a more expensive wall, being well protected by the sand which has accumulated in front of it. The quarry wall or towing path is in a very dilapidated and uneven condition. I would recommend that it should be taken up, faced, and filled in with concrete, and the flagging relaid. An estimate will be submitted for that purpose. The accompanying drawing shows the present condition of the work; the shaded part is the work done this season.

The State of New York has constructed a breakwater north of the piers built by the United States, its trace being east of north, for the purpose of forming a basin between it and the shore. It seems to me to be very injudiciously placed. It is, I am told, universally complained of, and has already been the cause of disasters, wrecks, and loss of life. It being shoal off the light-house, vessels bound in are compelled to stand more to the north to keep the channel, and should there be a heavy swell on, are likely to be thrown upon the breakwater, whether bound into the harbor or into the basin. Mr. Pettes, the United States agent, says he has understood that it is in contemplation to remove a part of the north pier, hoping thus to remove the difficulty; but this cannot be the case, as the difficulty occurs before the pier is reached; it is in the breakwater, not the pier. I am at a loss to offer a remedy for the evil, but hope that one may be suggested by the board of engineers.

Estimate.—Recapitulation.

For rebuilding sea-wall (350 feet)	$12,165 23
Raising 450 feet old wall 3 feet higher, and coping 150 cubic yards, at $6	900 00
Taking up and relaying tow-path	18,621 25
	31,686 48

Dunkirk.—The works at this place have been entirely demolished, and nothing has been done this season towards rebuilding, the plan being before the board of engineers. A small beacon has been erected near the entrance to mark the position of a breakwater, (under water.)

Erie, Pa.—This fine harbor is very much exposed, from the want of protection at the west end. The sea has made a breach in the low strip of land which connected the beach, and from the west is gradually filling the harbor, and the island itself is rapidly wearing away by the constant abrasion of the sea. Several efforts have been made to *stop the* breach and check the abrasion of the island, but without success. *The crib-work*, filled with stone, which was last constructed,

has been entirely demolished. This season a small experiment was made, by making wattlings of brush normal to the shore, and extending a short distance into the lake, hoping to intercept the travelling sands; but since they were put down the weather has been unusually quiet, and they have not produced much effect.

I rather think that some more effectual method must be resorted to. By instructions from the bureau, the north channel pier at the east end of the harbor has been repaired to the water's edge. I directed the repairs should begin at the beacon-light, and work towards the harbor; 700 feet in length have been removed, and the whole will be finished in a few days. It may be advisable to extend the channel piers further eastward, but my impression is, that the bar which now exists beyond the piers would only be thrown further east in proportion to their extension, and that it would be more economical to keep a channel open by dredging annually. Supposing, however, that the first may be preferred, I submit an estimate for the extension of the piers, for repairing the present north channel pier, and also an approximate estimate for the protection of the west end of the harbor.

Estimate.

Repairs to north channel pier	$250 00
Extending do do 500 feet	11,200 00
Extending south channel pier 500 feet	11,200 00
Repairs to the south channel pier	1,000 00
Protection of west end of harbor	20,000 00
Superintendent's and clerk's salary	2,040 00
	45,690 00
Contingencies, 10 per cent	4,569 00
	50,259 00

Respectfully submitted by your obedient servant,

W. TURNBULL,
Major Top. Engineers, Brevet Colonel.

Col. J. J. ABERT,
Chief Topographical Engineers.

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OFFICE OF OSWEGO HARBOR IMPROVEMENT,
Oswego, September 1, 1853.

SIR: I have the honor to submit the following report:

In compliance with an order from Col. J. J. Abert, chief of the corps of topographical engineers, dated March 1, 1853, I took immediate possession of all the United States property at Oswego belonging to the harbor improvement.

It will be recollected that no appropriations had been made for a number of years previous *to the year 1852* for the work, and that the old appropriation *had been expended long* before. The consequence

was, that the structures that had been erected for the protection of the harbor, being chiefly of timber filled with stone, had fallen into a state of great decay. In fact, it had been necessary from time to time for the inhabitants of the city of Oswego to expend large sums of money to prevent their entire destruction. The buildings that had been erected many years before (originally of slight construction) had gone to decay. The tools and machines had become nearly worthless. The materials on hand for the prosecution of the work consisted of a trifling amount of timber and iron, and about 550 cubic yards of limestone that had been procured for the purpose of continuing the superstructure of masonry that had been commenced upon the west pier. That plan, however, having been abandoned, the stone was no longer necessary, and they have since been sold.

In the summer of 1851 the legislature of the State of New York granted to the city of Oswego all the land under water lying in front of, and adjacent to, the land belonging to the United States on which Fort Ontario is situated, extending from the Cove property, so called, to the east pier. Subsequently, the common council procured from the honorable the Secretary of War a recognition of their right under certain limitations. On the 2d day of August, 1852, the city of Oswego leased the said land under water to individuals on a permanent lease, restricting them to a plan of improvement indicated on a sketch of the harbor herewith submitted, which plan is now in a rapid course of realization. The lessees of this property have reconstructed nearly the whole of the superstructure of the east pier, and intend to complete it this fall. The maintenance of the east pier being indispensable to the lessees for the protection of their works, and also convenient for their business as a wharf, they are willing to keep it in repair at their own expense.

Among the reasons that induced the legislature to grant this property to the city, and the secretary to confirm the grant, were the following:

The prevailing winds here are westwardly. Vessels making this harbor in a westwardly gale of wind were liable to ground upon the shoals upon this property, there being no good anchorage within the harbor, and it not being possible at all times to make fast to the west pier. In fact, there had been more or less wrecks every year from this cause, the loss of property averaging probably not less than ten thousand dollars annually.

Another reason that doubtless had weight with the legislature and the Secretary was the fact that the improvement contemplated would add more than five thousand feet to the wharf front of the harbor—an addition of great value to the commerce of the port, as the wharf front is quite too limited for the present wants of commerce.

The east channel pier was built last season, and proved useful in preventing such wrecks as had heretofore occurred.

There was, however, an objection that manifested itself that was not anticipated. The reflux of the sea from the east channel pier during gales of wind caused so great a commotion of the water in the western portion of the harbor as to seriously injure the wharf property on that side. To obviate this difficulty, the common council have this season granted to individuals the privilege of constructing a pier on the west

side of the channel, which is now in the process of construction, and will probably be completed before winter. This, it is believed, will effect the object intended, and also add materially to the needed wharf-room. This work is also noted on the sketch.

After the appropriation for this harbor was made in 1852, Lieut. Franklin, of the United States topographical engineers, was placed in charge of the work, but he arrived here too late to do more than make such temporary repairs to the west pier as appeared most necessary to secure that work through the winter, which he energetically commenced, but was interrupted early in December by one of the most severe gales of wind that has been witnessed here for many years. By this gale a breach was caused in the west pier, immediately east of the unfinished masonry of the superstructure, about one hundred and ninety feet long, and to a depth of from five to seven feet below the surface of the water, and the masonry was much shattered. The remainder of the pier was left by the gale in a very precarious condition; great apprehensions were entertained by the people of the city that it would be impossible at that late season of the year to prevent the entire destruction of the pier and the consequent ruin of the harbor. The Board of Trade, an intelligent and highly respectable body of merchants and ship-owners, called an extra meeting, and appointed a committee of their number to aid Lieut. Franklin in every possible effort to secure the harbor. With the assistance of the committee, Lieutenant Franklin succeeded, by the most persevering efforts, in the midst of an inclement winter, in securing the breach by crib-work, as represented on the accompanying sketch, and in making such repairs to the remainder of the pier as enabled it to resist the subsequent gales of wind of the stormy season.

As soon as the ice disappeared in the spring of this year, I commenced making preparations for rebuilding the superstructure of the west pier of oak and pine timber, filled with stone ballast, as had been directed.

On the 25th day of April I concluded a contract with a highly respectable commercial firm in this city for the necessary oak and pine timber, one cargo of which was to have been delivered on or before the 1st of June, and the remainder on or before the 1st of September, delivering it from time to time as fast as it should be wanted. The contractors have delivered but a portion of the timber called for by the contract, and the work has been somewhat retarded in consequence. I have also been disappointed in relation to the plank, the time having expired within which they were to have been delivered. I am informed, however, that a vessel is now gone for the plank, and that they may reasonably be expected within ten days.

The water of the lake, on the 4th day of June last, was four feet five inches higher than the low water of 1848, and is still three feet higher. This stage of the water is a serious embarrassment in connecting the new superstructure with the old work under water.

The early part of the season was more boisterous than usual, but since the middle of July the weather has been as good as in an average of seasons.

The work that I *have been able to accomplish* is as follows:

Five hundred and ninety feet of the old superstructure of the west pier has been removed to a depth of from two to four feet below the surface of the water, (from to on the sketch of the pier herewith submitted,) of which one hundred and twenty feet (from to on sketch) has been completely rebuilt, except planking, height six feet above the present water level. Two hundred feet more (from to on sketch) wants but one course of timber; and the remaining two hundred and seventy feet is from one to four feet above the surface of he water. The whole is filled with stone ballast as far as built.

A good tool-house and work-shop, with convenient sheds, and an office, have been built mostly from the materials of the old buildings; a well has been dug and enclosed; about two hundred cords of stone have been quarried and placed in a convenient position for locating; a large number of the heavy limestones that were under water in the breach of last winter have been removed, preparatory to rebuilding.

Some trifling repairs have been made on the east end of the pier. The pier wharf has been raised one foot, to bring it above high water.

The stone quarry has been put in condition to be worked to advantage whenever more stone is wanted.

The tools, scows, machines, &c., are in good order, and in sufficient quantity.

The limestone procured for the masonry has been sold for $3 20 per cubic yard, and the avails are credited in my account.

No circumstance materially retarding the work has occurred other than as above noted, and no loss of consequence occurred from the effect of storms or otherwise. The purchases of materials have been made within my estimates.

The wages of labor have been increased in consequence of the demand caused by the great fire of the 5th July, by which this city suffered so severely.

There will be necessary for the completion of the works at this place the following sums in addition to former estimates:

Estimate for removing the unfinished masonry of the superstructure that was shattered by the storm of last winter, (part under water,) and rebuilding the same with timber and stone, as follows:

Removing old work:		
20 common laborers 60 days, 1,200 days, at $1		$1,200 00
2 overseers 60 days, 120 days, at $2		240 00
Blacksmith's work, making and repairing tools		200 00
Ship-chandler, for blocks, cordage, &c		200 00
Total for removing old work		1,840 00
Rebuilding:		
6,750 feet cubic measure pine timber, at 15 cts.	$1,012 50	
750 feet cubic measure oak timber, at 25 cts.	187 50	
10,500 feet board measure pine plank, at $12	126 00	
6,000 feet board measure oak plank, at $20	120 00	
2,500 lbs. 1-inch rolled bolt iron, at 5 cents	125 00	

2,000 lbs. spike, at 6 cents	$120 00	
400 white oak treenails, at 3 cents	12 00	
1,200 days common laborers, at $1	1,200 00	
600 days carpenters, at $1 50	900 00	
Blacksmith's work	100 00	
60 days each of overseer and master carpenter, at $2	240 00	
Total for rebuilding in breach		$4,143 00

For rebuilding the top of the counter-forts inside of the pier 325 feet long, 30 feet wide, and 5 feet high:

11,625 feet cubic measure pine timber, at 15 cts.	$1,743 75	
28,250 feet board measure pine plank, at $12	329 20	
1,500 lbs. 1-inch rolled bolt iron, at 5 cents	75 00	
1,000 lbs. spike, at 6 cents	60 00	
400 white oak treenails, at 3 cents	12 00	
12 mooring posts, at $10	120 00	
300 days common laborers, at $1	300 00	
120 days carpenters, at $1 50	180 00	
30 days each of master carpenter and overseer, at $2	120 00	
Blacksmith's work	50 00	
Total for rebuilding counter-forts		2,989 95

For removing the large stone under water that have been washed from the top of the pier; 1 crib-scow, with captain and 8 men, 5 months:

8 men 130 days, 1,040 days, at $1	$1,040 00	
Captain of scow 130 days, at $2	260 00	
Chains, grapplings, ropes, &c	500 00	
Blacksmith's work and repairs	150 00	
Total for removing stone under water		1,950 00

For rebuilding pier in the breach caused by the storm of last winter:

12,540 feet cubic measure pine timber, at 15 cts.	$1,881 00	
950 feet cubic measure oak timber, at 25 cts.	237 50	
17,100 feet board measure pine plank, at $12	205 20	
7,600 feet board measure oak plank, at $20	152 00	
3,500 lbs. 1-inch round iron, at 5 cents	175 00	
3,000 lbs. spike, at 6 cents	180 00	
700 white oak treenails, at 3 cents	21 00	
4 mooring posts, at $10	40 00	
1,800 days common laborers, at $1	1,800 00	
900 days carpenters, at $1 50	1,350 00	
2 overseers, 60 days each, at $2	240 00	

1 master carpenter, 60 days, at $2	$120 00	
Blacksmith's work	100 00	
Total for rebuilding pier in breach		$6,501 70
Compensation of agent for one year		1,440 00
		18,864 65
Contingencies, 10 per cent		1,886 46
Total for rebuilding pier and removing stone		20,751 11

This sum, with the necessary dredging, will be all that in my opinion will be required to render this harbor as efficient as it is capable of being made while of its present size. But the business of this port has so far outstripped all former estimates of probable increase, that the harbor is inconveniently small for the number of vessels now employed. What, then, will it be in the future?

In the year 1846 the commerce of the port of Oswego was $9,500,000. (See Colonel Abert's report, Ex. Doc. No. 19, 1st session 30th Congress.)

In the year 1852 it had reached an aggregate of more than $30,000,000, as I am informed by the late collector; and if the business of the current year is to be taken as an index for the future, the ratio of increase will be greatly enhanced.

The amount of duties received and secured here four years ago were about $30,000; and in the year 1852, I am informed by the collector, they were about $400,000; and he gives it as his opinion that this year they will be more than half a million of dollars. It will, I think, be a moderate culculation to estimate the commerce of this port in 1857 at $60,000,000, and in 1861 at $120,000,000, provided the business of the place is not checked by the wants of the necessary harbor room; but the harbor of its present size is totally inadequate to the protection of the vessels necessary to be employed in a trade of that magnitude.

Very respectfully, sir, your obedient servant,

M. P. HATCH,
United States Agent.

Col. W. TURNBULL,
U. S. Top. Engineers, in charge of Lake Harbors, Oswego, N. Y.

APPENDIX G.

OFFICE GENERAL SUPERINTENDENT PUBLIC WORKS,
Cleveland, November 22, 1853.

SIR: I have the honor to submit the following report of work done on the several harbors under my charge during the past season:

Harbor of Sandusky.—From the report of the local agent for this work, which has been transmitted to the bureau, it appears that, for the protection of Peninsula point, a pier, consisting of rough crib-work filled *with stone, has* been constructed on the point, two thousand six hun-

dred and fifty-seven (2,657) feet in length, to serve as a breakwater against the action of the lake, which was rapidly wearing it away, and threatened to destroy it altogether. The construction of this work has been attended with the happiest results. The sand has rapidly accumulated on both sides of the pier, and from present appearances the experiment promises to realize our expectations to their fullest extent. The test of the winter, however, has yet to be undergone before the work can be pronounced entirely safe. The pier is constructed of round timber, firmly bolted with long iron bolts, and filled with stone. No piling has been resorted to, and it is hoped that the effects of the coming winter will not render it necessary to the future stability of the work.

The agent submits an estimate to close a cut between the small island, at which the work commenced the past season, to the main land of the peninsula. This cut is about three thousand feet in length, with an average depth of four feet. The amount of the estimate is $25,000.

Understanding that the whole subject of the improvement of this harbor is before the board of engineers, I refrain from offering any opinion upon the character or extent of the works required for its protection. The total expenditure for the work the past season is $10,000.

Harbor of Huron.—A large portion of the east pier, six hundred and thirty feet in length, has been rebuilt from an average depth of three and a half feet below the water, refilled with stone, and planked; leaving two hundred and ten feet of its outer extremity to be completed. This will restore the pier to its original state as constructed by the government.

The western pier is so much decayed and broken by storms, that it will require to be entirely renewed above the water its whole length, and three serious breaches below the surface will have to be filled up. Some progress has been made, under the light-house appropriation, in effecting the latter object. The breach next the pier-head has been stopped by sinking cribs, for a length of ninety feet, upon the old work, which had been carried away to an average depth of six feet below the surface of the water. This portion of the work will be carried up to a height of six feet above the water, should the season admit of it.

A considerable quantity of material is on hand, ready to commence operations early in the spring.

The pier-head, upon which the beacon is erected, will require to be renewed from the water surface, the timber for which will be framed during the winter. It was my intention to complete this portion of the work during the autumn, but the risk to the beacon, in case of a storm, determined me to defer it until the coming season. The eastern pier will also require to be protected and secured by a pier-head, provision for which is made in the estimate.

A detailed estimate of the cost of completing the repairs of this harbor is herewith submitted, amounting to $30,585 72.

Vermillion river.—The works at this harbor appear to have suffered more from decay than those of any harbor on the lake. The west pier is twenty-four feet in width, and from its great weight has withstood the force of the sea without injury, except in one spot near the shore One hundred and twenty feet of the northern end, which was partly

unfinished, is also gone to the surface of the water, and will have to be raised to the level of the rest of the pier. The work beneath the water appears to be in a sound condition; but nearly the whole of the upper work, owing to some peculiar cause, has rotted to such a degree that it will require to be entirely renewed. The pier never was planked all over its width; and the ties, twenty-four feet in length, being without any support in the middle, have, many of them, sunk down and broken into two by their own weight; and the others, as well as the longitudinal timbers, are so far decayed as to be almost useless.

The extreme rapidity of the decay of the timber in this work is worthy of remark, as being so much greater than in the other works, most of which were constructed many years before this was commenced. It is fairly attributable, in my opinion, to the character of the material with which the pier was in part filled at the time it was constructed. This consisted, in a great measure, of the mud and sand dredged from the bottom of the harbor and deposited within the cribs. The gases and acids, ascending from and generated by this mass of decomposing vegetable deposit and mould, must have acted upon the wood so as to cause the very rapid decay alluded to. In no other way can I account for it.

The amount available for the repair of this pier, which was derived from the light-house appropriation, was so very small that nothing further was attempted than to bring up the breach at the outer end to a level with the rest of the work, to remove the gallows-frame (upon which a small lantern is raised and lowered) to the extremity of the pier, and to construct a temporary walk from the shore to the light, to enable the keeper to reach it.

One crib has been sunk, to bring the whole of the breach to the level of the water, and I am now engaged in raising it to the required height.

The keeper's walk was constructed by laying down two parallel string pieces of eight-inch timber, flattened, upon such of the ties as would support them, and, where these were wanting, supplying their places by others. The old planking was then taken up, and, where sound enough for use, sawed into lengths of six feet and spiked down. This walk cannot be expected to last more than a year or two, but it was the only mode of effecting the object with the means at command. The amount expended has been about $1,200.

The whole of this west pier, (which is the light-house pier) will have to be renewed from the water surface; the estimated cost of which, herewith submitted, is $17,779 41.

Of the east pier, two hundred and seventy feet require to be renewed from the water surface, and a small portion for a few feet below.

These are repairs only, and when completed will merely place the work where it was before the repairs became necessary; the estimates submitted are intended to effect this object alone. Should the plan of the work, as projected by the bureau, require a further extension into the lake, an additional amount will be required for the purpose.

The estimated cost of putting the present work in a state of repair amounts to $24,453 53.

Black river.—In the east pier of this harbor two breaches have been *made by the sea,* severally 60 and 90 feet in length, and to a depth of

three and six feet below the water, which will have to be repaired. Eight hundred and seventy-two feet will have to be rebuilt above the water, and a pier-head will be necessary for the security of the pier.

On the west pier, two hundred and ten feet of new work has been constructed upon the foundation of the old work in a depth of water averaging seven feet, and a considerable amount of stone and timber is on hand for operations in the spring.

Some four hundred feet of pier will requre to be rebuilt from the surface of the water.

The estimated cost of the repairs upon this harbor is $22,344 50. The amount expended during the season, $4,000.

Cleveland harbor.—When I took charge of this harbor, I found nearly the whole of the east pier in possession of railroad companies and private individuals, who had set up a sort of claim to it by erecting buildings upon it and leasing parts of it out to others. Upon reporting these facts to the bureau, I received instructions to suspend all work upon the harbor until the question as to the right of possession by the government should be decided. The question has eventually been settled by the parties referred to relinquishing their claims and acknowledging the right of the government. But this settlement was not effected until the season had too far advanced to render the commencement of operations advisable. A survey has been made of the harbor and the adjacent waters, the charts of which are nearly completed.

Contracts will be made for the delivery of materials during the winter, so as to be ready as early in the spring as the season will permit.

A separate estimate will be made for this harbor, and transmitted to the bureau.

Harbor of Grand River.—At this harbor, four hundred and fifty feet of pier have been constructed entirely anew, from a depth of from three to eight feet below the surface of the water. This part of the work is complete except the planking.

Three hundred feet of old work has been thoroughly overhauled, timbers replaced, rebolted, and planked.

The outer end of the west pier was found to have a breach below the water; this has been repaired, and the crib refilled with stone.

A substantial crane-scow has been constructed, with other machinery, for the removal of old work, and a good yawl-boat purchased.

A detailed survey of the harbor has been made, and the charts transmitted to the bureau.

The expenditures during the season have been $7,000.

The estimated cost of the contemplated extension of the work into the lake, according to the report of the agent, which has been transmitted to the bureau, is $35,277 88.

Ashtabula harbor.—Three hundred feet of new pier have been rebuilt, from two to five feet below the water, and completed, except the planking.

Two hundred feet of new facing has been constructed on the west side, to prevent the sand from filling up the harbor.

A detailed survey of the harbor has also been made, and the results forwarded to Washington. Expenditures by the present agent, $5,000.

The estimated cost of the extension and completion of this work, the details of which have already been forwarded, amount to $23,031 25.

Conneaut harbor.—Four hundred feet of new work have been rebuilt from the surface of the water, and completed.

A crane-scow has also been constructed this season, and a good yawl-boat purchased.

A survey of the harbor has been made, and the charts are in the possession of the bureau.

The expenditure for the season has been $6,000.

The estimated cost of the proposed extension of the work is $19,855.

For further details respecting these three last-mentioned harbors, I respectfully refer to the full report of the agent, Mr. J. A. Potter, under whose immediate charge the work upon all of them has been executed; and I beg also to express my satisfaction with the very substantial character of the work done by him, and the manner in which his operations have been conducted.

I have the honor to be, very respectfully, your obedient servant,

HOWARD STANSBURY,
Capt. Top. Engineers, General Superintendent.

Col. J. J. ABERT,
Chief Corps Topographical Engineers, Washington.

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PAINESVILE, OHIO, *September* 20, 1853.

SIR: In compliance with the directions of the chief of the corps of topographical engineers, dated May 31, 1853, I have the honor to submit the following report:

From the 1st September, 1852, until the 19th day of April last, I was engaged as assistant engineer upon the survey of the north and northwest lakes, under the orders of Captain J. N. Macomb, of the corps of topographical engineers. On the 19th April my appointment as engineer and United States agent for the harbors of Grand River, Ashtabula, and Conneaut, took effect, and I immediately assumed the charge of the works at those points. After a careful inspection of the works at those points, plans for their repair were reported to the bureau, and approved, and I was ordered to carry them into effect. The following will show the progress made up to this time:

Grand River harbor.—The west pier at this point was reported to be gone, for the distance of twelve hundred feet, to from one to three feet below the surface of the water. Upon a closer and more minute examination, it was found in a *much worse* condition. The timbers of the old cribs were found to be so much torn up and displaced, that it became necessary to remove the stone and old work to a much greater depth. For the distance of two hundred and fifty feet no foundation could be obtained until everything was removed to from seven to nine feet below the surface. This was a labor of time and difficulty, *with the imperfect* machinery at hand. It was found almost impossible

to get *good* foundations for the new cribs to rest upon, even at that depth. In many places we found the old cribs built of timber (round logs) not more than six or eight inches in diameter, and settled without any apparent reference to direction or connexion with the adjoining cribs.

In repairing work of this kind, the first operation is to remove everything, as above, and get as fair a surface as possible for the new work to rest upon. Accurate soundings are then taken, and a crib, constructed to fit the bottom exactly, floated over the spot, settled with care, and bolted down, (if possible,) and filled immediately with stone. If it is found difficult to bolt securely, a bottom is put in the crib, and we are obliged to trust to the weight of the stone and the fastenings of the superstructure to keep it in place. Up to the present time the expenditures have amounted to about five thousand dollars. Three hundred feet (entirely through the worst portion of the work) have been rebuilt as above, the outer angle of the west pier thoroughly overhauled and repaired where necessary, and the outer end refilled with stone and secured.

The work is done in a thorough and substantial manner. Iron bolts are used exclusively, and are found to be cheaper and far more satisfactory than the wooden pin. All the timber used is square, and at least *one foot* in diameter, and above water is of the best of oak and red beech. An excellent crane-scow has been constructed this season, with other machinery for removing old work. A good yawl-boat has also been purchased.

The prices of materials have ranged from thirty to fifty per cent. in advance of former prices. A survey of this harbor has been made this season, and the greatest care used in obtaining correct soundings. Accompanying this, I forward a chart exhibiting the soundings as they existed on the first day of September.

The lake is rapidly falling again, and at my last observation was eleven and a half inches lower than on May 10. I herewith submit an estimate for the proposed extension of the piers, on the plan suggested to me by Major Bache, of the corps.

The width of the entrance of lake harbors (in most cases) being necessarily small, it is often the case that, although the extension of a pier on one side of a harbor forms a sort of lee for a vessel, yet it is not sufficient, in heavy weather, to prevent her drifting off below the shorter pier, as at Grand River. With a strong wind from the west or southwest, a vessel makes the harbor with great difficulty, and they have often been drifted to the leeward of the eastern or shorter pier, and either gone on shore, or been obliged to stand out into the lake again. On approaching this harbor from the westward, a vessel, as soon as opposite the entrance, changes her course, loses her heading in a measure, and, in consequence of the *distance to be run* before reaching the real entrance between the piers, is in great danger of being drifted entirely to the eastward of the shorter pier.

In view of all these circumstances, I would recommend the improvement proposed, as it at the same time gives the harbor all the advantages of the *angle of the west pier, which I* consider all important.

This port, as it ever has been, is of the utmost importance a harbor of refuge for the lake craft; and its usefulness to the surrou ing country as an outlet for their products has already been set fo from year to year by the reports of the bureau.

A railroad is now in process of construction, connecting this har with the Ohio river and the immense coal region of central Ohio.

Estimate of funds required for continuing the improvement of the harbor Grand River, Ohio, during the year ending June 30, 1855.

30,800 feet crib timber, at 10 cents per foot	$3,080
40,780 feet ties, at 10 cents per foot	4,078
19,800 feet long timber, at 10 cents per foot	1,980
28,700 feet longitudinal and cross-ties, at 10 cents per foot.	2,870
913 feet posts, at 10 cents per foot	91
14,300 feet plank, at $30 per thousand	429
2,000 feet lumber, at $10 per thousand	20
1,738 cords stone, at $5 per cord	8,690
10 tons iron, at $90 per ton	900
2,200 pounds spike, at 6 cents per pound	132
3,735 days carpentry, at $1 50 per day	5,362
1,463 days labor, at $1 per day	1,483
825 weeks subsistence, at $2 per week	1,650
Smithery	275
Crane-scow	750
Stone-scow	300
Contingencies, ten per cent. on amount	3,207
Total amount of estimate	35,277

Ashtabula harbor.—Operations, under the instructions of the Bur of Topographical Engineers, were commenced at this point on the 1 day of October, 1852, for the purpose of repairing (if possible bef the winter) the breach made in the east pier during a severe gale July of that year. The season proved unfavorable, and, after m ineffectual attempts, the whole matter was suspended until the com spring.

I assumed the charge of this work, under the orders of the bure as before stated, on the 19th day of April, and made an immediate spection of the works, and reported their condition to the bureau, follows:

The outer angle of the east pier very much out of repair, timb broken in many places, plank torn up, &c., &c., and recommended being rebuilt from the surface of the water. (I will here mention th before we had reached this point in our repairs, this whole angle w swept away, during a gale, to from three to six feet below the surf of the water.) I also found a breach existing in the eastern pier, co mencing at the inner end of the part above described, and extend two hundred and fifty feet towards the shore; everything gone to fi *five to seven* feet below the surface of the water, and the sea from *eastward making* a clear sweep through it. The outer end of

west pier was also gone, from six to nine feet below the surface, for the distance of one hundred feet.

My suggestions as to the mode of repairs necessary having been laid before the proper authority and approved, I was ordered to take immediate measures to carry out the proposed plans.

During the winter, the agent in charge had procured a large quantity of materials, thoroughly repaired the scows, &c., and operations were commenced without delay.

The work has been vigorously pushed up to the present time; the foundation cribs throughout the whole damaged portion of the east pier are in place; and the superstructure completed (except the planking) for the distance of three hundred feet.

The superstructure is composed entirely of the best of white oak and red beech timber; and the work is done in the most thorough manner, bolted with iron, and secured in the most approved style. If the weather continues favorable, this pier will be entirely completed this fall, and the outer end of the west pier secured.

The expenses up to this time are not far from five thousand dollars; the balance on hand will be sufficient to complete the proposed repairs. A detailed survey of this harbor and vicinity has been made this season.

I forward herewith a chart, exhibiting the sounding as taken with the greatest care. An estimate for the further improvement of this harbor is herewith submitted.

I have not the means at hand for furnishing the statistics of the business of this harbor; but, situated as it is in the midst of one of the finest and most densely-populated districts of northern Ohio, whose products find their outlet at this port, its importance in every sense is rapidly increasing. This harbor has been selected as the terminus of a railroad, traversing the fertile region of eastern Ohio, placing it in connexion with many of the important inland towns and the Ohio river, opening at the same time a new and valuable coal district, which must find its way to this port for a market.

Estimate of funds required for continuing the improvement of the harbor of Ashtabula, Ohio, during the year ending June 30, 1855.

19,600 feet crib timber, at 10 cents per foot	$1,960 00
27,460 feet ties, at 10 cents per foot	2,746 00
12,600 feet long timber, at 10 cents per foot	1,260 00
18,900 feet longitudinal and cross-ties, at 10 cents per foot	1,890 00
600 feet posts, at 10 cents per foot	60 00
9,100 feet plank, at $30 per thousand	273 00
1,500 feet lumber, at $10 per thousand	15 00
1,106 cords stone, at $5 per cord	5,530 00
5½ tons iron, at $90 per ton	495 00
1,500 pounds spike, at 6 cents per pound	90 00
2,275 days carpentry, at $1 50 per day	3,412 50
931 days labor, at $1 per day	931 00
575 weeks subsistence, *at $2 per week*	1,050 00
Smithing	175 00

Crane-scow	$750 00
Stone-scow	300 00
Contingencies, ten per cent. on amount	2,093 75
Total amount of estimate	23,031 25

Conneaut harbor.—I assumed the charge of this harbor on the 19th day of April last, and immediately reported the condition of the works to the bureau, together with my views as to the necessary repairs.

This report was approved by the bureau, and I was ordered to carry out the proposed plans.

Subsequent examinations convinced me of the necessity of entirely rebuilding the outer angle of the west pier from the surface of the water. This has been done in the most thorough manner. It was also found necessary to rebuild a portion of the east pier for the distance of two hundred and seventy-five feet.

This part was thoroughly repaired under the last appropriation; but, upon examination, it was found that in many places the sea was making breaches through it. The deck being still in very good condition, as much as possible was used in the rebuilding of the work.

This part is also nearly ready for the deck, and will be entirely completed this fall.

The east pier has been extended inland for the distance of one hundred and twenty feet, in accordance with instructions received from the bureau.

A superior crane-scow has been constructed this season, and a yawl-boat purchased for the service of the works.

The sand does not appear to be accumulating on the west side of this harbor, as at Grand River and Ashtabula.

A careful survey of this harbor has also been made, and a chart is herewith transmitted to the bureau, together with an estimate for the proposed extension of the piers.

This harbor is situated about fourteen miles to the eastward of Ashtabula, and like it, is surrounded by a fertile and densely-populated country, whose products find their way to market through this port. A railroad is now in process of construction connecting this port directly with the city of Pittsburg, passing through the coal region, which will at once insure an immense amount of business at this port.

Estimate of funds required for continuing the improvement of the harbor at Conneaut, Ohio, during the year ending 30th June, 1855.

16,800 feet crib timber, at 10 cents per foot	$1,680 00
22,680 feet crib-ties, at 10 cents per foot	2,268 00
10,800 feet long timber, at 10 cents per foot	1,080 00
16,200 feet longitudinal and cross-ties, at 10 cents per foot	1,620 00
500 feet posts, at 10 cents per foot	50 00
9,600 feet plank, at $30 per thousand	288 00
1,200 feet lumber, at $10 per thousand	12 00
950 cords stone, at $5 per cord	4,750 00
4½ tons iron, at $90 per ton	405 00

1,200 pounds spike, at 6 cents per pound	$72 00
1,950 days carpentry, at $1 50 per day	2,925 00
800 days labor, at $1 per day	800 00
450 weeks subsistence, at $2 per week	900 00
Smithing	150 00
Stone-scow	300 00
Crane-scow	750 00
Contingencies, 10 per cent. on amount	1,805 00
	19,855 00

GENERAL REMARKS.

In the repair of the harbors intrusted to my supervision, the expenditures have been carefully directed to the purpose of making the harbors serviceable, with the present works, as far as possible. The appropriation being small, it was not deemed advisable to attempt any work that could not be completed with the means available; the great essential being to put the present works in a *safe condition*, not trusting to future appropriations to complete unfinished extensions.

In the surveys made of each port, and herewith transmitted, the greatest care has been taken to note all points of interest as far as possible. A red line on each map will show the line of beach as it existed at the date of the surveys.

I also forward a sheet showing the different plans adopted in the repairs at the several points. Either kind of work is sufficient for the purposes intended; but that at Conneaut is the most complete in all its parts, and the kind of work that I would most respectfully recommend to the consideration of the bureau. It combines nearly all the requisites of a good pier, in my estimation. A model of a pier constructed on this plan is also forwarded to the bureau for inspection. This model is constructed for water of any depth up to fifteen feet. It is twenty feet wide, which is the least width that I would recommend for *any pier* resting upon cribs that are liable to settle; and in all cases beyond that depth, the base should be in proportion to the depth of water. A pier constructed upon this plan is more *firmly connected* in all its parts, stronger in *every particular* than any work that I have yet examined, and I am confident, if adopted, would answer the purposes intended *much* better than *some* of the old methods. In repairing works at different points, I have *rarely* found two cribs constructed alike, or fastened in the same manner; generally of round timber, insecurely fastened, without any particular regard to size of the logs, nature of the connexions or joints, and the quantity of work done, without regard to the quality, the main object.

Respectfully submitted.

J. A. POTTER,
United States Agent.

Capt. H. STANSBURY,
Corps Topographical Engineers, U. S. Army,
General Supt. Lake Harbors, Cleveland, Ohio.

OFFICE OF THE UNITED STATES AGENCY,
Sandusky City, September 1, 1853.

SIR: Agreeably to your instructions, I herewith forward you my annual report of my operations for the past, and my recommendations for the coming year, for the harbor at Huron, Ohio.

I have built up, from the foundation, averaging at least 6½ feet below the surface of the water, about 540 feet of the east pier 12 feet wide, with square timber bolted together with iron, and filled the same with stone. The work was commenced in April, and has been progressing since with such despatch as the circumstances of the case would permit. Materials have been difficult to procure, and laboring men have been scarce; the great demand for laborers upon our numerous railroads has made it quite difficult to procure labor or materials for the construction of a work at anything like satisfactory prices or regular despatch.

The fitting and placing new work upon the old and *uncertain foundation* left from the destruction of the old piers, which were first built at this place, is both costly and difficult. I make no doubt, if the old pier were entirely gone, I could have built and sunk a pier 16 feet wide, and the same length, for even less money.

I propose, during the remainder of the season, or so long as the present appropriation shall last, to build up the pier sunk to 4 or 4½ feet above the water, and still continue to sink, if circumstances shall warrant; but build up what is already sunk, and secure the same from destruction by the seas, leaving it perfectly safe, in this respect, until further appropriations shall be made by Congress to finish the work.

There is something over 200 feet of the east pier remaining to be built up from 6½ or 7 feet below the surface of the water, which will require a further appropriation of, say	$8,000 00
Former estimate to build up east pier	17,000 00
	25,000 00

Therefore, in my judgment, an appropriation of $25,000 will be required to prosecute successfully the work of improvement for the coming year at this place. This amount of appropriation by Congress would, I make no doubt, place this harbor in capital condition. My expenses during the past year are as follows, to wit:

Paid out for tools and materials on hand	$1,461 88
Paid out for tool-shop, &c	100 00
On hand	948 39
	2,510 27
Add actual cost of work put in	4,739 73
	7,250 00

My receipts for the same time are as follow:

For March	$250 00
For April	3,000 00
For June	1,000 00
For July, received in August	2,000 00
For August	1,000 00
Total	7,250 00

The entire balance of $10,000 will be nearly or all expended before the close of the navigation.

This harbor is an important one, although the commerce for a few years past has not been very considerable, yet it is now assuming an importance by no means insignificant. This place is the termination of the Huron and Oxford railroad, and a branch of the Sandusky City, Mansfield, and Newark railroad. The Junction railroad also passes directly through this place, and, when the harbor is sufficiently improved, will afford shelter for many lake vessels and considerable commerce. I therefore have no hesitation in strongly recommending this work to the favorable consideration of your department.

I am, very respectfully, your obedient servant,

GEORGE S. PATTERSON,
United States Agent.

Capt. H. STANSBURY,
Corps Topographical Engineers,
General Superintendent Harbor Improvements, Cleveland, Ohio.

Estimate of funds required to complete the repairs of the harbor of Huron.

WEST PIER.

1. To bring 160 feet at the northern end up to the surface of the water, seven courses, twelve feet wide.

2,240	feet crib timber, 12 inches by 12, at 14 cents	$313 60
1,848	feet ties, do do	258 72
75	cords of stone, at $5	375 00
¾	ton ¾ iron bolts, at $95	71 25
		1,018 57

MIDDLE BREACH.

2. To bring 360 feet up to the surface of the water, five courses.

3,600	feet crib timber, 12 inches by 12, at 14 cents	$504 00
2,280	feet ties, do do	403 20
1¼	ton bolt iron, at $95	118 75
121	cords of stone, at $5	605 00
		1,630 95

BREACH NEXT THE SHORE.

3. To bring 180 feet up to the surface of the water, three courses.

1,080	feet crib timber, 12 inches by 12, at 14 cents	$161 20
864	feet ties, do do	120 96
½	ton bolt iron, at $95	31 66
36½	cords stone, at $5	182 50
		496 32

SUPERSTRUCTURE.

4. To rebuild west pier its whole length, 1,140 feet, seven courses, twelve feet wide.

15,960	feet crib timber, 12 inches by 12, at 14 cents	$2,234 46
13,680	feet ties, do do	1,915 20
4½	tons bolt iron, at $95	427 50
15	kegs spikes, at $6	90 00
386	cords stone, at $5	1,930 00
11,400	feet 3-inch oak plank for deck, at $30	342 00
	Tearing up old work and clearing foundation	1,000 00
	Carpentry, smith work, and labor for the whole	5,000 00
1	crane-scow	750 00
1	stone-scow	350 00
		14,039 16

PIER-HEAD.

5. To build up pier-head from surface of water 9 feet, 40 feet square.

3,500	feet crib timber, (including posts,) at 15 cents	$525 00
1	ton bolt iron	95 00
65	cords stone, at $5	325 00
1,600	feet 3-inch oak for deck, at $30	48 00
5	kegs spikes, at $6	30 00
	Carpentry and labor	1,000 00
		2,067 40

RECAPITULATION—WEST PIER.

1.	Outer breach	$1,018 57
2.	Middle breach	1,630 95
3.	Breach next the shore	496 32
4.	Superstructure	14,039 16
5.	Pier-head	2,067 40
	Total for west pier	19,252 40

EAST PIER.

To complete the east pier, by reconstructing 210 feet of pier upon the old foundation, eight feet below the water, and constructing a pier-head.

5,580 feet crib timber, at 14 cents	$823 00
4,872 feet ties, at 14 cents	682 08
1½ ton bolt iron at $95	142 50
170 cords stone, at $5	850 00
10 kegs spikes, at $6	60 00
2,100 feet 3-inch oak plank, at $30	63 00
Carpentry and labor	1,500 00
	4,261 40

PIER-HEAD.

40 feet square, in 15 feet water, to rise 9 feet above the surface.

9,360 feet crib timber, at 15 cents	$1,404 00
209 cords stone, at $5	1,045 00
2 tons bolt iron, at $95	190 00
1,600 feet 3-inch plank for deck, at $30	48 00
1,480 feet 3-inch plank, for planking outside	44 40
10 kegs spikes, at $6	60 00
Carpentry and labor	1,500 00
	4,291 40

EAST PIER.

Completion of east pier	$4,261 40
Pier-head	4,291 40
	8,552 80

RECAPITULATION.

West pier	$19,252 40
East pier	8,552 80
	27,805 20
Contingencies, 10 per cent	2,780 52
	30,585 72

The above estimate embraces the whole expense of putting the piers in a complete state of repair. The amount of the last light-house appropriations will, however, have to be deducted from it.

Respectfully,

HOWARD STANSBURY,

Capt. Top. Engineers, General Superintendent.

CLEVELAND, OHIO, *Nov. 21, 1853.*

Estimate of funds required to repair the piers at the harbor of Vermillion.

WEST PIER.

1. Commencing at the outer or north end; 120 feet to be built up from the surface of the water 5 feet high and 24 feet wide.

1,800 feet oak timber, 12 inches by 12, at 12 cents	$216 00
2,112 feet ties, at 12 cents	253 44
¾ ton ¾-inch bolt iron, at $90	67 50
75 cords stone, at $4	300 00
3,000 feet 3-inch oak plank, at $30	90 00
6 kegs spikes, at $6	36 00
Smithery	100 00
Carpentry and labor	500 00
Contingencies, 10 per cent	156 29
	1,719 23

2. To tear up and rebuild from the foundation at the water's edge 1,000 feet of pier, fill with stone, and plank over, 24 feet wide and 5 feet high.

15,000 feet oak timber, at 12 cents	$1,800 00
17,568 feet ties, at 12 cents	2,108 16
5 tons ¾-inch bolt iron, at $90	450 00
30 kegs spikes, at $6	180 00
568 cords stone, at $4	2,272 00
23,000 feet 3-inch plank, at $30	690 00
Smithery	500 00
Carpentry and labor	4,000 00
1 crane-scow	750 00
1 stone scow	350 00
Tearing up old work	1,500 00
Contingencies, 10 per cent	1,460 02
	16,060 18

EAST PIER.

3. To bring up 90 feet 4 feet to the surface of the water, and to rebuild, fill with stone and plank, 270 feet of pier, 24 feet wide and 6 feet high.

6,940 feet oak timber, at 12 cents	$832 80
246 ties, 5,904 feet, at 12 cents	708 48
2 tons ¾-inch bolt iron, at $90	180 00
10 kegs spikes, at $6	60 00
204 cords stone, at $4	816 00
5,670 feet 3-inch plank, at $30	170 00
Carpentry and labor	3,000 00
Smithery	300 00
Contingencies, 10 per cent	606 74
	6,674 12

RECAPITULATION.

1. North end of west pier	$1,719 23
2. Rebuilding west pier above water	16,060 18
3. East pier	6,674 12
	24,453 53

The above estimate provides for the whole expense of both piers as far as they at present extend into the lake. Consequently, the funds in the hands of the department for this purpose will have to be deducted from it. The original plan of the work contemplates, I believe, a further extension of both piers into the lake, but how far I have no means of knowing. The present estimate is simply for putting the work as it now stands in a complete state of repair, which it very much needs.

Respectfully,

HOWARD STANSBURY,
Captain Top. Engineers, General Superintendent.

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Estimate of funds required to complete the repairs of the harbor of Black river.

EAST PIER.

1. To rebuild breach gone at the north end, 90 feet in length, water 6 feet deep on old foundation, width 13 feet.

2,160 feet crib timber, 12 inches by 12, at 12 cents	$259 00
2,000 feet ties, at 12 cents	240 00
50 cords stone, at $5	250 00
1,200 lbs. ¾-inch bolt iron, at 4½ cents	54 00
1,000 feet 3-inch oak plank, at $30	30 00
Carpentry and labor	650 00
	1,483 00

2. To rebuild breach 60 feet in length, water 6 feet deep on old foundation.

1,080 feet crib timber, at 12 cents	$129 60
1,000 feet ties, at 12 cents	120 00
30 cords stone, at $5	150 00
540 lbs. bolt iron, at 4½ cents	24 30
700 feet plank, at $30	21 00
Carpentry and labor	500 00
	944 90

3. To rebuild from the surface of the water 872 feet of pier 13 feet wide.

1,136 feet crib timber, at 12 cents	$1,360 32
1,000 feet ties, at 12 cents	1,200 00
260 cords stone, at $5	1,500 00

3 tons bolt iron, at $95	$285 00
10,000 feet plank, at $30	300 00
Carpentry and labor	4,500 00
	9,145 32
Total for east pier	$11,573 42

PIER-HEAD FOR EAST PIER.

40 feet square, 15 feet water, to rise 9 feet above the surface.

9,360 feet crib timber, at 15 cents	$1,404 00
209 cords stone, at $5	1,045 00
2 tons bolt iron, at $95	190 00
1,600 feet 3-inch oak plank, for deck, at $30	48 00
1,480 feet 3-inch oak plank, for planking outside	44 40
10 kegs spikes, at $6	60 00
Carpentry and labor	1,500 00
	4,291 40

EAST PIER.

Completion of east pier	$11,572 42
Pier-head	4,291 40
	15,863 82

WEST PIER.

1. To rebuild 120 feet gone on north end from surface of water, width 15 feet.

2,268 feet crib timber, at 12 cents	$272 16
1,650 feet ties, at 12 cents	198 00
33 cords stone, at $5	165 00
750 pounds iron, at 4½ cents	33 75
1,638 feet plank, at $30	49 14
Carpentry and labor	500 00
	1,218 05

2. To rebuild 374 feet from surface of water, width 11 feet.

4,448 feet crib timber, at 12 cents	$533 76
3,575 feet ties, at 12 cents	427 80
90 cords stone, at $5	450 00
2¼ tons bolt iron, at $95	213 75
3,500 feet of plank, at $30	105 00
Carpentry and labor	1,500 00
	3,230 00

RECAPITULATION

East pier	$11,573 42
Pier-head	4,291 40
West pier	4,448 36
Contingencies, 10 per cent	2,031 32
	22,344 50

The above estimate embraces the whole expense of putting the piers of this harbor in a complete state of repair. The amount of the last appropriation will therefore have to be deducted from it.

Respectfully,

HOWARD STANSBURY,
Captain Top. Engineers, General Supt.

CLEVELAND, OHIO, *November* 21, 1853.

APPENDIX H.

DETROIT, *September* 1, 1853.

SIR: In obedience to your orders of the 13th April, 1853, I respectfully submit the following views, plans and estimates, for opening a channel through the St. Clair flats.

This improvement is one in which more interests are involved than any other on the lakes. Every cargo carried to the upper lakes is affected by it.

No vessel ever attempts to pass the flats in the night; all must incur, at least, the delay of waiting for daylight. The largest vessels (except when the water is very high) cannot pass fully laden; and besides these certain losses, they usually have to pay, on every passage, something to the steam-tugs for lighterage, or towing, or hauling off, when they get aground.

It is believed, on good authority, that the average expense or loss of passing the flats, to vessels such as those trading to Chicago and Milwaukie, is equal to one hundred dollars per trip. This is an enormous tax, and one that would not be quietly submitted to but for the expectation that the difficulty will be soon removed.

In regard to the point at which it is most advantageous to open the channel, the shortest and most direct (all other things being equal) is the west.

Referring to the map of the mouth of the south channel, it is clear that a direct cut from the mouth of the river to the deep water of the lake, marked E F, would be best; but as this cut would be about one mile and a quarter long, and would consequently involve a heavy expense, and take a longer time to accomplish it, it may be better to open the channel which is nearest to the mouth of the river, and which may be accomplished by much less labor and expense.

The entrance here, *marked A on the map*, is more than a mile from

the channel, running directly out from the mouth of the river first referred to.

This point, I think, possesses some advantages over the one lying west of it, and referred to in your letter of the 13th of April, 1853. The reasons why this seems preferable to the more western entrance, are, that it is nearer, by more than a mile, to the entrance of the river, and that it may be opened and completed at considerably less cost. The plans for either cut would be, I suppose, essentially the same.

The middle cut, marked A on the map, being the shortest, would be least expensive.

In the plan for opening the western channel, it is suggested in your letter, before referred to, to drive a row of piles (X) across the line of the channel A, with the view of forcing the currents into the western channel, (B.)

If it is borne in mind that the place X is entirely out in the open lake, more than a mile and a half from any thing like shore, the fact will be apparent that there can be scarcely any perceptible current at that place, not sufficient in any degree to affect the bottom.

I have no doubt that the deep channel at the point X, and above and below it, has been cut, where a ridge of ice has been accidentally piled up on the flats, extending across the mouth of the river and stretching out to the westward on the outside of this channel.

It is found, by the survey made last fall, that scarcely any change has taken place in the depth and form of this channel within the last ten years, when the first survey was made. This seems to show, conclusively, that the current is not sufficient to affect the bottom.

There is another objection to driving piles as suggested, which is, that it crosses the channel now used by all the second class vessels and steamers, it being much nearer than the route by the north channel; all vessels that can pass here do so. I am confident that more than one-half of all the vessels pass this way. They would, of course, find it a serious inconvenience to have this channel closed up, and I feel certain that it would do nothing towards effecting the end desired—namely, deepening the more western channel.

By referring to the survey made last fall, (a copy of which is enclosed herewith,) it will be seen that there is no twelve-feet water above the points marked Y Z on the accompanying map.

If it should be decided to open the western channel, the dredging will have to be continued out from D to Y Z, in order to obtain a depth of twelve feet throughout.

The light-house for this channel should be placed at L, and the beacon-light at M, and from the light-house a line of stakes or piles should be driven, marking the channel to P, where the sheet-piling would commence; and, from the upper end of the sheet-piling, the channel stakes to be extended to W, where the channel is shown by the rushes growing on each side.

If the channel A is selected, the place for the light-house would be at R, and the beacon at S.

The sheet-piling would extend, on both sides of the cut, from the deep water of the lake to the deep water connecting with the river.

Above the sheet-piling the side of the channel should be marked by channel stakes up to the point W, the mouth of the river.

These channel stakes should be spliced on to strong piles, and stand eighteen or twenty feet above the water, and be capped with a sheet-iron cone of about four feet diameter, which, showing above the horizon, could be seen from the deck of a vessel in the night.

These marks should be placed about three hundred feet apart, and be so firmly fixed as to stand through all seasons. With such marks the channel could be run at night without difficulty or delay.

In regard to the width of the channel to be opened at either place, I am of opinion that three hundred feet will fully answer all the requisite purposes, and such is the opinion of the most experienced steamboat captains. I say this with some diffidence, knowing that a greater width has been suggested; but after a constant observation of the lake navigation for ten years past, I am convinced that three hundred feet would be found amply sufficient.

Very few of the harbor entrances on the lakes are more than half this width, and I have never heard any complaint of their being too narrow, although the difficulty of entering the harbors is much increased by the heavy sea to which they are exposed; while on Lake St. Clair the water is at all times comparatively smooth; owing to the shallowness of the lake, a heavy sea can never be got up on it.

The largest steamers on the lakes are about 62 feet wide across the guards; of course, a three hundred feet channel gives them room to pass each other with perfect freedom.

A channel of three hundred feet wide can be cut through with the dredge, just finished for this work, at a much less rate per yard than if the channel were six hundred feet wide, because, for a three hundred feet channel, no mud-scows are required.

The dredge, as it advances, cuts a channel fifty feet wide; and it is found by experience that it is cheaper to remove one-third of the earth three times (as must be done to open a channel one hundred and fifty feet wide) than to use mud-scows, and boat it off. For a six hundred feet channel mud-scows must be used.

As suggested in your letter, before referred to, it will be necessary to protect the sides of the cut by a sheet-piling.

These piles should not be less than twelve inches in diameter at the small end, flattened on two sides, and driven close together along both sides of the cut. They will be permanent below the water, and will prevent the mud from being washed back into the channel.

In regard to the structure for a light-house at this place, the soundings made at several places show from twelve to fifteen feet of "hard sand." This probably means *soft sand*, for it is only in soft sand that a rod can be sunk by hand to the depth of twelve or fifteen feet.

I have examined it in a number of places, and found it a mixture of very fine sand and black mud, or vegetable mould, so soft that I think it would require piling to sustain a structure of masonry.

I am, therefore, of the opinion that the tower for this place should have as little weight as possible; and as the whole operation is, in some degree, an experiment, (it being *possible* that difficulties and un-

foreseen objections may occur to this channel,) it may be best, in the first place, to construct a light-house and beacon-light, and keeper's house, of wood; making them as far as possible fire-proof, by roofing and covering them with tin or with coppered iron.

The entire cost of such a structure would not much exceed the annual interest on the sum required for a permanent structure of iron or stone. A large portion of the piles required for the building must be driven to form a wood landing for supplying the steam-engine of the dredge. To construct this wood landing is the first thing to be done on the work.

It is not important that the tower at this place should be very high nor the light very strong; there being never a very high sea on this lake, there is never any danger of shipwreck. No vessel was ever lost here; and the lake being small, (only eighteen miles from the Detroit river to this place,) there is no difficulty in making a light even of a very low order.

The beacon-light should be placed in front of the main light so as to mark the direction of the entrance to the channel. The beacon may be placed about one hundred and sixty feet distant from the main light, and the two connected by a foot-bridge, so that both may be attended by the same keeper.

Estimates for completing the work, in accordance with the foregoing views, are herewith submitted. I have made separate estimates for the three channels, and separate estimates for channels three hundred feet and six hundred feet in width.

It is hardly necessary to say that there are, on the lakes, many light-house towers built of wood, in positions where it would be difficult and expensive to sustain a heavy structure of masonry.

I am, most respectfully, your obedient servant,

A. CANFIELD,
Captain Topographical Engineers.

Col. J. J. ABERT,
Chief Corps Top. Engineers, Washington, D. C.

Estimate for deepening eastern channel, South Pass, St. Clair flats.

Length of cut 6,600 feet = 2,200 yards.
Width of cut 300 feet = 100 yards.
Mean depth of cut 6 feet = 2 yards.

Dredging 440,000 cubic yards, at 12½ cents per cubic yard	$55,000 00
Sheet-piling both sides of cut, 13,200 feet long, at $3 per running foot	39,600 00
	94,600 00

Same channel, 600 feet wide.

Dredging 440,000 cubic yards, at 12½ cents per yard..	$55,000 00
Do.... 440,000....do.....at 25 cents per yard...	110,000 00
Sheet-piling both sides of cut, 13,200 feet, at $3 per running foot.....	39,600 00
	204,600 00

Estimate for the middle channel, South Pass, St. Clair flats.

Length of cut 4,050 feet = 1,350 yards.
Mean depth of cut 2½ feet = ⅓ths of a yard.
Width of cut 300 feet = 100 yards.

Dredging 112,455 cubic yards, at 12½ cents per yard..	$14,056 87½
Sheet-piling the two sides of the cut, 8,100 feet, at $3 per running foot.....	24,300 00
Channel-marks, 30 of them, at $24 50 each.....	735 00
	39,091 87½

Same channel, 600 feet wide.

Dredging 112,455 cubic yards, at 12½ cents per cubic yard.....	$14,056 87½
Dredging 112,455 cubic yards, at 25 cents per cubic yard.....	28,113 75
Sheet-piling the two sides of the cut, 8,100 feet, at $3 per running foot.....	24,300 00
Channel-marks, 30 of them, at $24 50 each.....	735 00
	67,205 62½

Estimate for the western channel, South Pass, St. Clair flats.

Length of cut 820 feet = 273⅓ yards.
Mean depth of cut $3\frac{4}{10}$ feet = $1\frac{6}{15}$ yard.
Width of cut 300 feet = 100 yards.

Dredging 309,682 cubic yards, at 12½ cents per cubic yard.....	$38,710 25
Sheet-piling 8,400 feet, at $3 per running foot.....	25,200 00
Channel-marks, 26 of them, at $24 50 each.....	637 00
	64,547 25

Same channel, 600 feet wide.

Dredging 309,682 cubic yards, at 12½ cents per cubic yard	$38,710 25
Dredging 309,682 cubic yards, at 25 cents per cubic yard	77,420 50
Sheet-piling 8,400 feet, at $3 per running foot	25,200 00
Channel-marks, 26 of them, at $24 50 each	637 00
	141,967 75

Estimate for platform for sustaining the light-house keeper's house and beacon-light.

For the main platform, to be 50 by 100 feet, piles 5 feet apart, 231 piles, at $8 per pile	$1,848 00
Caps for piles, 600 running feet, 16 by 16 inches, at 20 cents per foot	120 00
Foot-path to beacon-light, 60 feet long and 5 feet wide, 24 piles, at $8 each	192 00
Caps for piles, 100 running feet, at 20 cents	20 00
Platform for beacon-light, 25 piles, at $10 per pile	250 00
Caps for piles, 160 feet, at 20 cents per foot	32 00
Plank, 6,300 superficial feet, 3 inches thick, at $40 per thousand	252 00
Iron for bolts, 1,592 pounds, at 6 cents per pound	95 52
Spikes, 1,600 pounds, at 10 cents per pound	160 00
Carpentry, $600	600 00
For constructing tower, keeper's house, cost of lanterns and all required fixtures, in addition to the $10,000 already appropriated, $6,000	6,000 00
Amount required	9,569 52
Adding the $10,000 already appropriated	10,000 00
Total cost of light-house, beacon-light, platform, and keeper's house	19,569 52

A. CANFIELD,
Captain Topographical Engineers.

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DETROIT, *September* 30, 1853.

SIR: I have the honor herewith to submit the following report of the duties on which I have been engaged during the year ending September 1, 1853:

After turning over to the Treasury Department the Wangoshance light-house, on the 1st day of July, 1852, I remained at this place waiting orders until the 1st day of October, when I received your instructions to take charge of the improvement of the St. Clair flats.

A survey was immediately made of the mouth of the south channel of the St. Clair river, the entrance to which it is proposed to deepen sufficiently to allow the passage of the largest vessels navigating the lakes.

The result of this examination, on being compared with the survey made by Captain Macomb ten years ago, shows that very little change has taken place in the depth of the water within that period.

The result of the last survey has been communicated to the bureau in my two reports on this subject, and a plan submitted for the improvement.

On the 8th day of December, 1852, I received your order to take immediate measures for constructing a dredge for the purpose of opening or deepening the channel across the flats. I without delay made an arrangement with Mr. Abel Hawley, of Milwaukie, Wisconsin, for commencing the dredge. It was to be built at Detroit, and to be completed by the last of June, 1853. Soon after the dredge was commenced, on the 31st day of March, 1853, I received your orders to take charge of the construction of the ship canal at the Sault Ste. Marie.

My duties in connexion with the canal taking me away from Detroit, it became impossible any longer to superintend the construction of the steam-dredge for the St. Clair flats. Hence I was compelled to make a contract for building and completing it. This was done, and the dredge was so far finished by the first of the present month (September) as to be put in operation, for the purpose of testing the machinery, and proving that it was capable of doing all that was contracted for; that is, that it should excavate in sand or easy cutting at the rate of one hundred (100) cubic yards per hour through the day.

This, from careful observation, I am convinced it will do; it has been operating only in a very stiff clay, mixed with small boulders. Its performances here have been such as to satisfy me that it will do all that has been promised. It has a forty-horse power engine; it is a single scoop-dredge, with a crane swinging off forty feet, and is worked by *one man*, besides the firemen and engine men—five (5) in all.

The cost of the dredge will be seventeen thousand dollars, ($17,000.) This will leave of the appropriation for the St. Clair flats less than three thousand dollars, ($3,000.)

As I have fully given my views in the plan submitted for the St. Clair improvement, I suppose you do not wish to be troubled with a repetition of them.

On the 29th of August, 1853, I received your order to make a survey of the mouth of Clinton river, with a view to the improvement of that entrance. The map, with my report and estimate for that work, was forwarded to the Topographical bureau on the 20th of the present month, (September.)

I am at this time employed for a few days at this place on the drawings and models of the locks for the Sault Ste. Marie canal. This work is being constructed by the State of Michigan from the proceeds of the sales of an appropriation of Congress of seven hundred and fifty thousand (750,000) acres of land *for that purpose.*

It is *required by the law of Congress* that annual reports shall be

made to the Secretary of the Interior of the amount expended on the construction of the canal, and of the amount of the proceeds of the sales of the lands. A contract was formed for the construction of the canal. The work was begun on the 4th day of June, 1853, and is to be finished by the 5th day May, 1855. The work has not progressed as rapidly during the summer as it should have done, in order to insure its completion within the limited time. I think it still possible that it may be done; but I am not confident that it will be.

As a summary of my work during the past year, I respectfully refer to my report on the Sault Ste. Marie canal, the two reports on the St. Clair improvement, the report on the improvement of the Ontonagon, and the report on the improvement of the mouth of Clinton river.

I have the honor to be, very respectfully, your obedient servant,

A. CANFIELD,
Captain Topographical Engineers.

Col. J. J. ABERT,
Chief Corps Top. Engineers, Washington, D. C.

DETROIT, *September* 22, 1853.

SIR: I herewith forward an estimate for the improvement of the entrance to Clinton river, Michigan.

The map is just finished, and will be forwarded to-day by the express.

I have estimated for a channel one hundred feet wide and nine feet deep. This width and depth will be sufficient for all purposes, and quite satisfactory to all who are interested in the commerce of the river.

I am of the opinion that the light-house is in the right position, and that it is not advisable to move it further out or in. It is in a very dilapidated condition, and will probably fall down before the end of the year. The pier on which it is built is much of it carried away, as well as a large portion of the lower part of the wall of the keeper's house, on which the lantern is placed. It will fall down very soon.

I have not estimated for the first cost of the dredge.

I am, very respectfully, your obedient servant,

A. CANFIELD,
Captain Topographical Engineers.

Col. J. J. ABERT,
Chief Corps Top. Engineers, Washington, D. C.

Estimate for the improvement of the entrance to Clinton river, State of Michigan.

It is proposed to deepen the entrance to nine feet.

For a close-piling for the sides of the cut, where the dredging is three feet deep, 2,400 piles, 15 feet long, at *75 cents each*	$1,800 00
Driving 2,400 piles, at 20 cents each	480 00

Dredging 21,968 cubic yards, at 12 cents per yard.....	$2,634 96
Cost of horse pile-driver.....	900 00
	5,814 96
Add for contingencies, 5 per cent.....	290 74
	6,105 70
Present appropriation.....	5,000 00
Required.....	1,105 70

A. CANFIELD,
Captain Topographical Engineers.

APPENDIX I.

OFFICE OF U. S. PUBLIC WORKS,
Chicago, Illinois, September 1, 1853.

COLONEL: I have the honor to submit a report in reference to the several works under my charge.

1. *Chicago harbor, Illinois.*

Nothing has been done in prosecution of this improvement during the past year. The sketch herewith submitted shows the present condition of the entrance. The bar is steadily increasing. With any considerable wind from the north or northeast, vessels drawing nine feet and over are compelled to avoid the direct channel, and, from the difficulty of getting around the south end of the bar, are often obliged to come to anchor to "leeward" of the piers, with the risk of dragging their anchors and going ashore. Much damage has ensued during the past two months. I need hardly say that the most urgent necessity exists for some effort to correct the evil.

I have heretofore so frequently given my views of the case that I fear that any further remarks will be almost a trespass upon your patience. I will, however, venture to say that I have seen no reason to change my opinions. To my plan of an outer pier I have heard objections made. I have been willing and anxious to hear them; for, if success in such a work is pleasant and creditable, on the other hand a failure would be most disagreeable. Such objections as I have heard I have been able to answer satisfactorily, at least to myself.

The only method other than my own, which has been recently suggested, is that of extending the north pier in a northeastern direction, so as to produce along it a counteracting current to that along shore. But that method has already been tried and found to be entirely inefficient, or worse. On the contrary, as the pier has been brought more nearly into coincidence with, instead of opposition to, the direction of the drift, the deposit has been slower and further out in the lake; and I believe that *the shore current only* needs the acceleration which *will be given it by the proposed* outer work to carry all its s

pended matter well to leeward of the harbor, and also to displace the present bar.

The estimate for the proposed work submitted in detail on the 15th of January, 1853, amounted to $20,117 90. From the recent rise in the prices of labor and materials, and from the probability, also, that if the method be adopted the scale of the work will be somewhat enlarged, it would be advisable to increase the amount to $25,000; which amount I beg leave to recommend to be asked for.

For repairs of the north pier I have heretofore submitted estimates in detail to the amount of $5,218 31, which amount it will be highly desirable to expend for that purpose should the suit pending in regard to the "accretion" be decided in favor of the United States; otherwise I cannot recommend its expenditure, except, say $200 for repairs of the extreme outer portion of the pier.

An amount equal to the above is needed for the repairs of the south pier. There are, I believe, however, some important questions undecided as to the operations of the Illinois Central Railroad Company in the vicinity of this pier, previous to the settlement of which the method and extent of the repairs could not be precisely determined upon. The company are pushing forward their works, but I am not advised whether they still adhere to their plan of making an opening for a slip through the pier. But as these questions will probably be decided before the season of active operations next year, I submit the estimate.

Estimate for continuing the improvement of the harbor at Chicago, Illinois, during the year 1854.

For constructing an outer pier, 500 feet long	$25,000 00
For repairs to existing piers	10,000 00
For dredging (30 days, at $100)	3,000 00
	38,000 00
Add 10 per cent. for contingencies	3,800 00
	41,800 00
Deduct amount available of late appropriation	18,000 00
	23,800 00

2. *Chicago light-house.*

In reference to the suitableness of the pier-head put down for the foundation of this work, I had the honor to submit some remarks to the engineer committee of the Light-house board, who had the subject under consideration, on the 4th April last. I see no reason to doubt its entire sufficiency for the purpose for which it was designed. No work has been done upon it, and I am not advised of the determination of the board. The light should be one of the first class for the lakes, and *is very much* needed, as the present one is very imperfect, and, *indeed, altogether insufficient.*

3. *Waukegan harbor, Illinois.*

I have but little to add to the report of the agent in charge. The location of the breakwater, as decided upon, is, in my judgment, very judicious; and the results of its erection will be looked for with great interest. I am not without apprehension that if the space behind the breakwater should be occupied with bridge piers, these structures will cause so much obstruction to the shore currents as to create a troublesome deposit of the sand with which these currents are plentifully charged.

The amount required to complete the work to the length of 700 feet is estimated at $32,046 38; and I beg leave to express my concurrence in the opinion expressed by the agent, as to the desirableness of having the amount appropriated at the next session. The same principle applies, with great truth, to all the works. It is of great advantage to know beforehand how much can be depended on to carry out the plan. It is greatly conducive both of economy and despatch.

4. *Kenosha harbor, Wisconsin.*

The agent estimates the cost of completing this work at $31,353 70, which sum, judiciously expended, would seem to me to be sufficient. The water appears to deepen very rapidly from the point to which it is proposed to extend the north pier, which is a very favorable circumstance as to the efficiency of the work in maintaining a good entrance to the harbor.

It is not improbable, to my mind, that, as the work advances, reasons may appear for changing somewhat the direction of the north pier, in order to introduce the curved end, which has been found so useful. But as such change would not make any material difference in the cost of the work, it is not necessary to anticipate it now. The work of repairing the existing piers, and dredging the channel between them, is now going on.

5. *Racine harbor.*

The agent in charge of this work recommends adding 224 feet to the north, and 352 feet to the south pier, and to change the direction of the north pier, in a curve, towards the south. Of this change I approve; both for the reasons given by the agent, and also for others, which have been briefly stated in the remarks on Chicago harbor.*

The estimated amount required to complete the work is $17,454 79, which is certainly very moderate, and ought rather to be increased than diminished. The work done during the season has consisted of repairs of the existing pier and dredging the channel.

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* I have frankly to retract an opinion expressed in my report on the Racine harbor of 7th September, 1849, that the curved form is of no benefit. Experience has convinced me of its great utility, although *alone* it is not sufficient.

6. *Milwaukie harbor, Wisconsin.*

The agent in charge estimates the cost of its completion at $35,329 95.

I do not, of course, concur in his reasonings as to the influence of the proposed direction of the piers in preventing deposits of sand on the north.

The facility of entrance during a northeasterly storm is a much better argument; and is, indeed, a strong one in the opinion of many judicious masters of vessels. I am also of opinion, that when the "new cut" is made, it will be well to leave open the channel of the river below it, in order to test fully the effect. I think it probable that no necessity would be shown of closing up that channel; and if so, some perplexing questions, as to legal rights, might be avoided.

Upon a review of the location and dimensions of the piers for this work, submitted by me on the 19th November last, I think them judicious and proper. If it be necessary to give the piers a more northerly direction, it should be done gradually, after carrying them out to the point then proposed. That estimate was made to conform to the amount of the appropriation, and the length proposed for the north pier was 650 feet. If, as I apprehend will be the case, there should prove to be but little deposit on the north side of this pier, it might be turned more towards the north—if thought advisable—after completing 600 or 650 feet; as it will be necessary to carry it some 600 or 800 feet further before the harbor can be considered complete.

Nothing has been done at this work beyond the depositing, by the contractors, of a quantity of stone upon the ground. It awaits the adoption of a plan, with orders to go on.

7. *Sheboygan harbor, Wisconsin.*

I have not seen the plan and estimate of the agent, though I understood him to say he had forwarded one to the bureau.

The work cannot be considered complete without the addition of 700 feet to the piers put down by the county and town authorities. This extension would be in an average depth of water of fifteen feet, and would cost, by my estimate, $26,936.

I see no way of carrying on the work except, as intimated, of adding to the piers already existing. But I submit, that it will be proper for the county and town authorities to cede all their rights and jurisdiction over the present work to the United States, and I am inclined to think that they would make no objection to doing so.

I think we are not yet in possession of data on which to decide how to apportion the additional 700 feet between the two piers. It does not seem quite certain which of the two can be said to be the windward pier, or from which direction the more drift is to be expected. If there be any difference, it will now soon appear, although it is certainly less marked than at most of the other ports on the lake. However this may turn out, not less than the amount indicated of pier-work will be necessary.

Including an item for strengthening the existing piers, which will probably be found necessary, the estimate will stand thus:

For 700 feet additional pier-work, 20 feet wide, in 15 feet water	$26,936	00
For strengthening the existing piers	3,064	00
	30,000	00
Deduct amount (supposed) available of late appropriation.	8,000	00
Amount to be asked for	22,000	00

8. *Manitowoc harbor, Wisconsin.*

On the 2d November, 1852, I submitted a plan for this improvement. My several opportunities, during the past summer, of examining the locality, have confirmed my general views as then expressed. The estimate then submitted was made with a view to the greatest possible economy of expenditure of the small appropriation of $8,000. I would recommend, however, carrying on the work on a large scale. Since that time, also, prices have risen. As there is no local agent at that point, I have myself made up the estimate in detail, which, with a sketch of the locality, showing the location and dimensions of the pier, is herewith submitted.

No work has been executed at this harbor. A small quantity of stone and a few sticks of timber have been gotten upon the ground—the contractors having failed, as in other instances, to fulfil their contracts.

9. *Harbors at Michigan City, Indiana, New Buffalo, Black Lake, and Grand River, Michigan.*

The full report of Mr. Bowes, the agent in charge of these works, supersedes the necessity of my enlarging upon them. His great experience in works of this nature, and his acquaintance with the localities of the works, entitle his views to great confidence. A careful personal inspection, during the past summer, of the several points, except Black lake, and full conference with Mr. B. in reference to them, enable me to express a well-considered concurrence with him in the views he has presented to the bureau.

The breakwater at Michigan City, as adopted, seems to me to promise better results than any heretofore proposed, so far as I am informed. It is certainly useless to attempt to make a harbor of the insignificant stream emptying into the lake at this point. Even a small section of the breakwater may be of essential service in saving vessels from destruction, and in enabling them to "hold on" during a storm, when, without it, they would be compelled to run for some other port, at a great loss of time, to say nothing of imminent danger of a worse result.

In Mr. Bowes' remarks on New Buffalo I was glad to notice his recognition of the principle I deem so important, namely, that of so constructing the works *as to oppose as little obstruction* as possible to the

shore current, so that the drift may, as much as possible, pass by instead of being deposited. I am quite sure that this is the true principle, and that all efforts in a contrary direction must fail.

All which is respectfully submitted by your obedient servant,

J. D. WEBSTER,
Captain Topographical Engineers.

Col. J. J. ABERT,
Corps Topographical Engineers, Washington, D. C.

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MANITOWOC HARBOR.

Estimate for constructing 1,200 *feet (*600 *feet on the north, and* 600 *feet on the south side) of pier,* 15 *feet wide, averaging* 10 *feet high.*

Siding.—24,000 feet oak and pine timber, 12 × 12, at 10 cents per ruuning foot	$2,400 00
Piles.—7,200 feet piles, (each 30 feet long,) at 10 cents	720 00
Clamps.—4,800 feet board measure, (oak 3 × 8,) at $10 per thousand	480 00
Spike.—2,400 lbs. 9-inch wrought spike, at 8 cents	192 00
Iron.—13,400 lbs. inch square, for bolts, at 5½ cents	737 00
Stone.—1,150 cords stone, at $7	8,050 00
Ties.—18,000 feet ties, (round,) at 6 cents	1,080 00
Workmanship, teams, &c	3,000 00
	16,659 00

Estimate for 200 *feet additional on the south pier,* 20 *feet high and* 20 *feet wide.*

Siding.—8,000 feet siding, 12 × 12, oak and pine timber, at 10 cents per running foot	$800 00
Piles.—1,400 feet, (each 35 feet long,) at 10 cents	140 00
Ties.—8,000 feet of ties, (round,) at 6 cents	480 00
Clamps.—1,600 feet, board measure, at 10 cents	160 00
Spike.—800 pounds 9-inch spike, at 8 cents	64 00
Iron.—2,400 pounds inch-square iron, for bolts, at 5½ cents	132 00
Stone.—560 cords stone, at $7	3,920 00
Workmanship, teams, &c	2,000 00
	7,696 00

Machinery and miscellaneous expenses.

1 movable platform pile-driver	$250 00
1 crane-scow	400 00
1 deck-scow	400 00
Tools, lines, &c	200 00

400 feet sheet-piling, (200 feet on each side,) at $2 50	$1,000 00
Dredging 14,814 yards, at 12½ cents	1,851 75
Superintendence.....	1,000 00
	5,101 75

Recapitulation.

For 1,200 feet pier, 15 × 20.....	$16,569 00
For 200 feet pier, 20 × 20.....	7,696 00
For machinery, &c.....	5,101 75
	29,456 75
Add 10 per cent. for contingencies.....	2,945 67
	32,402 42
Subtract (supposed) amount unexpended of late appropriation	7,000 00
Amount required to complete the harbor.....	25,402 42

NOTE.—The amount of dredging may, and probably will, be diminished by the active current caused by the spring freshets.

J. D. WEBSTER,
Captain Topographical Engineers.

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OFFICE OF PUBLIC WORKS,
Kenosha, August 11, 1853.

SIR: Your letter of the 14th ultimo, requesting me to furnish the bureau with my views in reference to any extension of the works at this place, with estimates of probable cost, was duly received, and would have been answered sooner had I not been in the daily expectation of meeting Major Bache and Captain Webster, with whom I wished to consult in reference to this matter.

I find, on a thorough examination of the government piers, that they are in good order, requiring but little repairs this season—say to the amount of $200. It will cost about $200 to remove the wreck of an old schooner which lies about half-way between the north and south piers, and about feet from the outer end.

I have made an estimate, which I send herewith, for probable cost of materials and labor to extend the north pier 218 feet, and the south pier 30 feet, further into the lake. In making this estimate I have kept in view the amount of government appropriation this season, and have confined myself to estimates for extending the piers, without reference to dredging. I think it very desirable that there should be some dredging done this season, and would recommend that $1,000 or $1,500 be

expended in that way, and as much less be expended in extending the piers.

I am, respectfully, your obedient servant,

SAMUEL HALE,
United States Agent.

Col. J. J. ABERT,
Corps Topographical Engineers.

Estimate of materials required for the repair and improvement of the harbor of Kenosha, (formerly Southport,) Wisconsin, during the season of 1853.

200 sticks timber, 30 feet long, at 13 cents per foot ...	$780 00
160.....do.....32...do.....13.....do.....	535 60
30.....do.....25...do.....13.....do.....	97 50
644 ties .....22...do.....9.....do.....	1,275 12
92 do.....18...do.....8.....do.....	122 48
450 cords stone, at $7 50 per cord.....	3,375 00
3,000 feet champing, at 14 cents per foot.....	42 00
20 kegs spikes, at 8 cents per pound.....	160 00
3,000 pounds iron, at 5 cents per pound	150 00
	6,547 70
Add for labor	2,000 00
Contingencies, 10 per cent.....	854 77
	9,402 47

SAMUEL HALE,
United States Agent.

OFFICE OF PUBLIC WORKS,
Michigan City, Ind., Sept. 19, 1853.

COLONEL: In conformity with your instructions, I have the honor hereby to submit an annual report of the several works under my charge, viz: Michigan City, Indiana; New Buffalo, St. Joseph, Black Lake, and Grand River, in the State of Michigan.

Michigan City, Indiana.

The importance of a judicious and complete investigation of the most advantageous method of improvement to be adopted for this harbor, required time and a careful examination of the elements it offered for consideration.

The board of engineers determined, in July last, that the *projét* should consist of a crib breakwater structure; which plan was approved by yourself and the honorable Secretary of War. After mature deliberation, aided by the experience of a long residence at this point,

and a professional examination of various plans of improvement, I feel fully convinced that the one which has been adopted is the only one which promises ultimate success, for the various reasons urged in former reports, and, when completed, will meet the urgent demands and requirements of the commerce of the lakes for a safe, accessible, and reliable harbor at this point.

The absolute necessity of this harbor, as a "harbor of refuge," has often been urged. In this opinion I am sustained by the experience of every individual acquainted with lake navigation, and which a reference to its position on the map of Lake Michigan will demonstrate. This is the strong recommendation which it has to the consideration of the general government for further appropriations.

Its local importance is yearly increasing with the growth and improvement of the country. The region immediately tributary is one of the most fertile and prolific in its agricultural productions in the west; which products, consisting of corn and wheat, are brought to this point for shipment to Buffalo and other eastern markets—this being the only accessible port of entry to the region of northern Indiana, embracing within its scope the counties of Laporte, Porter, Lake, Jasper, Starke, Pulaski, Marshall, and a portion of St. Joseph.

The opening of railroad communications with the interior has given points on the lake additional commercial importance.

Michigan City is the lake terminus of the New Albany and Salem railroad, which has its other terminus at New Albany, on the Ohio river, below the falls. This road, built with a view to transport the products of the interior counties of this State, will greatly increase the exports from this point; for it will be the outlet to which the produce of a line of rich and fertile counties, extending directly north and south through the entire State, (and, by its connexions, reaching the other portions of Indiana not on the immediate line,) will naturally be brought on its way to eastern markets; also, by the same route, will a large portion of Kentucky, all of Tennessee, and the States bordering on the lower Mississippi, find this the nearest point to reach lake navigation—a communication which, the experience at other points has fully demonstrated, the agricultural products of the country invariably take..

An accompanying table will exhibit the exports from this point for the last two years, taken from the returns of the collector of the port.

These points of consideration for the completion of a harbor at this point are based upon the fact that the increasing and growing commerce of the lakes, which is required for the purpose of transporting the exports of the west, is continually exposed to great loss and destruction of life and property from the want of sufficient and accessible harbors of refuge and protection.

The active operations at this point commenced in the latter part of July, and have been confined principally to procuring machinery and materials.

Owing to the advanced state of the season, it leaves but a small portion of work to be reported. During the month of August 200 feet of bridge-pier was constructed, and timber sufficient for two cribs

ot the breakwater contracted. A temporary connexion has been formed with a private pier, in order to allow the completion of the outer portion of the bridge-pier connexion to the line of the breakwater; thereby enabling and facilitating in sinking a crib of the breakwater during the next month, if the weather and season shall permit. October being generally a calm month, I anticipate no serious difficulty.

The breakwater will be located in 25 feet of water, which is exterior lakewards to all bars of sand. It will consist of cribs constructed with close ends, 30 feet long, 30 feet in width, and raised 12 feet above the surface of the lake, according to the plan adopted by the board of engineers.

The line of direction will be N. 61° E., very nearly parallel to the shore, and consequently affording no obstruction to the general drift of tbe lake; and, with a length of 2,000 feet, affording an ample protection against the heavy winds, which are from the N. W., N., N. N. E.

Accompanying this report are estimates in detail for this work. Assuming the entire length of breakwater at 2,000 feet, the entire cost will be $321,000. The necessary expense of machinery and appliances will be incurred under the present appropriation, and this will be necessarily an entire supply, from the fact that the old machinery was worn out and decayed, and consequently leaves but a balance of this appropriation to be applied to the construction of the breakwater, which will not be the case in future appropriations. During the next season a liberal appropriation can be advantageously expended.

A map exhibiting the present condition of the harbor at this point, from soundings taken during the month of August, accompanies this report, with the line of breakwater defined.

Estimate of the cost of constructing a crib 30 feet long, 30 feet base, and 37 feet altitude. Also, 2,000 feet of breakwater, composed of similar cribs, founded in 25 feet water.

136 sticks of timber, per face 13 × 13, 30 feet long, making 4,080 feet, at 15 cents per foot	$612 00
111 ties, flatted, 8 × 10, 30 feet long, 3,330 feet, at 10 cents per foot	333 00
6 piles, 50 feet long, making 300 feet, at 12½ cents per foot	37 50
194½ cords stone, at $10 per cord	1,945 00
2,600 feet 4 × 6-in. plank, for decking, at $12 per M.	31 20
70 lbs. spikes, at 7½ cents per lb.	5 25
7,000 lbs. 1½-inch bolt iron, at 4¼ cents per lb.	297 50
	3,261 45
Add labor	1,050 00
	4,311 45
Add 10 per cent. contingency	431 14
	4,742 59

Average cost per foot, $158.

2,000 feet of breakwater, at $158 per foot	$316,000
Machinery, inclusive of bridge-pier	5,000
	321,000
Deduct amount of present appropriation	20,000
Amount required to complete work	301,000

Exports from the port of Michigan City, Indiana, for two years, from September 1, 1852, to September 1, 1853, including number of arrivals and tonnage of vessels.

1851–'52:

Wheat	307,765	bushels.
Corn	200,000	do.
Pork	2,000	barrels.
Sundries	1,500	tons.

1852–'53:

Wheat	300,000	bushels.
Corn	320,000	do.
Pork	1,000	barrels.
Sundries	1,250	tons.
Total amount of wheat	607,755	bushels.
Total amount of corn	520,000	do.
	1,127,755	do.

Number of vessels arrived at same port in same period:
Total number, 254, averaging 100 tons.
Total tonnage 25,400

Harbor of New Buffalo, Michigan.

The operations at this work for the past season have been confined to receiving materials under a contract made by order of the honorable Secretary of War. The expenditure, up to the present date, has amounted to $5,186 83; the appropriation made for this work was $8,000; thereby leaving only the small balance of $2,813 17 to be applied to its construction.

New Buffalo is situated at the mouth of the Galien river, which, at this point, enlarges into a bayou, or small lake, separated from Lake Michigan by a narrow sand spit of about 400 feet in width. The plan proposed for this improvement, for which estimates are hereby appended, proposes first to cut through this sand spit a channel of 300 feet in width, and secure its sides with sheet-piling, and then extend (in connexion with it) two piers into the lake of different lengths. The northern, or weather pier, to be 1,600 feet in length, extending over all the bars, and terminating on clay bottom in 25 feet of water; the lee pier to be 700 feet in length, and terminating in ten feet of water. The drift of the lake at *this point being from* the northeast, the direc-

tion of the piers to be southwest, to assimilate, as nearly as can be possible, with the drift, and thereby obstruct, to as limited an extent as possible, the floating sand. A large column of water, with considerable current, passes out of the Galien river at its mouth, during its spring and fall freshets, which is deemed sufficient to move and carry with it all interior obstruction, as also the sand in the proposed cut required to be removed. Under these circumstances no estimate for dredging has been submitted; but, should these anticipations not be realized, the quantity required to be dredged will be so limited as not to materially add to the cost of the improvement.

The subjoined estimates, marked A, of the ultimate cost of the work, have been predicated on an increased price of the cost of labor and materials which has taken place since the period of my report on this improvement of November 15, 1852, and has, therefore, as a consequence, increased the present estimated cost; and, in addition to which, the present estimate contains one for the cost of securing the proposed cut not contained in the one accompanying that report.

From the annexed estimate, the cost of completing this improvement will be $112,267 49, and after deducting the present appropriation, $104,267 49; by which it will be perceived that the cost of this improvement will not materially differ from that of similar works; and, when completed, will, without doubt, make a good and capacious harbor either for local or general commerce. The exports of this point have thus far been confined to lumber; but as a good quality of soil is in its vicinity, it will, without doubt, be more cultivated as soon as a harbor is provided capable of affording facilities for the shipment of produce.

A.

Estimate of the probable cost of improving the harbor of New Buffalo, Michigan, viz: by constructing two parallel piers of twenty-four feet base—the one (north) 1,600 *feet in length, and terminating in twenty-five feet of water; the other (south)* 700 *feet in length, and terminating in ten feet of water; as also the expense of securing the sides of the proposed cut through a sand spit of* 400 *feet in length, viz:*

FOR SOUTH PIER, 700 FEET IN LENGTH.

1,400	cords of stone, at $10 per cord	$14,000 00
7,000	lineal feet crib timber, 30′ × 13″ × 13″, at 12½ cents per foot	875 00
11,200	lineal feet levelling timber, 45′ × 13″ × 13″, at 15 cents per foot	1,680 00
2,180	lineal feet cross-ties, 24′ × 8″ × 10″, at 10 cents per foot	2,180 00
4,200	lineal feet piles, 30 feet long, at 10 cents per foot	420 00
46,200	feet oak scantling for deck, at $12 per M	554 40

5,000 lbs. 1⅛-inch bolt iron, at 4½ cents per lb.....		$202 50
500 lbs. 6-inch spikes, at 9 cents per lb.		45 00
Cost of materials for south pier.....		19,956 90

NORTH PIER, 1,600 FEET IN LENGTH.

3,942 cords of stone, at $10 per cord.....		$39,420 00
40,000 lineal feet of crib timber, at 12½ cents per foot..		5,000 00
25,600 ....do.... levelling timber, at 15 cts. per foot		3,840 00
7,000 ....do.... piles, at 10 cents per foot.....		700 00
63,360 ....do.... cross-ties, at 10 cents per foot....		6,336 00
105,600 feet oak scantling for deck, at $12 per M.....		1,267 00
11,000 lbs. 1⅛-inch bolt iron, at 4½ cents per lb.....		475 00
1,100 lbs. 6-inch spikes, at 9 cents per lb.....		99 00
Cost of materials for north pier.....		57,137 00
Cost of materials for south pier.....		$19,956 90
Cost of materials for north pier.....		57,137 00
Cost of materials for both piers.....		77,093 90
Cost of labor.....		22,152 00
		99,245 90
Add 10 per cent. for contingencies and machinery		9,924 59
Cost of both piers.....		109,170 49

COST OF SHEET-PILING OF THE SIDES OF THE CUT, 400 FEET IN LENGTH, THROUGH THE SAND SPIT, VIZ:

4,000 feet lineal of piles, at 10 cents per foot.....		$400 00
Driving 160 piles, at $1 50 each.....		240 00
3,200 feet of square timber for caps, at 12½ cents....		400 00
48,000 feet oak plank for piling, at $12 per M		576 00
Driving 800 feet of sheet-piling, at $1 50 per foot.....		1,200 00
		2,816 00
Add 10 per cent. for contingencies		281 00
Cost of sheet-piling.....		3,097 00

AGGREGATE COST OF THE IMPROVEMENT, VIZ:

For extension of piers.....		$109,170 49
For sheet-piling cut		3,097 00
Total cost		112,267 49
Deduct appropriation made.....		8,000 00
Amount *required to finish* the work		104,267 49

Harbor of St. Joseph, Michigan.

The operations at this improvement, for the present season, have been directed exclusively to repairing its two piers; the completion of which will nearly, if not entirely, exhaust the present appropriation. Their dilapidated condition, previous to their present repairs, was fully exhibited in my report to the Bureau of the Corps of Topographical Engineers, under date of November 29, 1852.

The south pier, for a distance of about 200 feet from its exterior end, had portions of its base undermined on the interior side, by which it had lost its vertical position and inclined to the interior. This pier not having had sufficient ballast to produce a proper resistance to the severe action of the lake, to which it is greatly exposed, a portion of its top had become entirely detached and moved out of its position. From its condition, it became necessary to entirely rebuild the above portion to two feet below the water line—an operation extremely difficult—which, after an energetic effort, has been accomplished, and the top is securely attached to its base and properly ballasted. The repairs of this pier are now fully and substantially made, requiring only the putting on of its deck plank, which is in process of being done.

In addition to the above repairs, a portion of the timber necessary for the cribs, to fill the breaks in the north pier, has been obtained and in process of preparation, as also the stone necessary to fill the cribs. The plan proposed, and being executed, for the repairs of the north pier, is to rebuild such portions as have been destroyed with a pier of twelve feet base, as being of sufficient capacity and strength to resist any action of the lake it may be subjected to, and also the most economical mode of repairing it. About fifty feet of this crib has been already sunk, and, if the weather should permit, it is anticipated that the whole requisite quantity will be sunk and levelled by the close of the season.

After these repairs are finished, to perfect the improvement of this harbor a further extension of the south pier will be required. This pier is not of sufficient length to affect and control the current between the piers, which now passes around its exterior end, and giving an imperfect channel. By the extension of this pier the whole volume of water passing out will be directed between the two piers, thereby straightening the channel, and obviating a difficulty which exists at this harbor, of entering when a heavy current is running out of the river, as vessels coming in meet the current passing around the end of the south pier, and by it are frequently forced off from their course and carried back into the lake. This difficulty is severely felt by steamboats, and instances are cited where it required two and three efforts before they could gain an entrance inside of the south pier.

This subject was brought to the notice of the bureau in my report of the 29th November, 1852, and I would urge its favorable consideration as important to perfect this harbor. I hereby append estimate (marked A) of the cost of extending this pier 600 feet as a minimum length of extension. I also submit a survey showing the present condition of this harbor. The water of the lake is now nearly three feet above that of 1842, when the last survey of this work was made; and should a reflux take place, as precedent and present facts indicate, (as there has

been a fall of some four inches since the last spring,) it will require all the force of the current of this river to be directed in a line between the piers to sustain a good channel. The harbor of St. Joseph is proverbial as possessing all the elements for one of the best harbors of the lakes, requiring only the above extension of the south pier to perfect it.

A.

Estimate of the probable cost of improving the harbor of St. Joseph, Michigan, viz: by extending the south pier 600 feet, average depth of water 13 feet, and 24 feet base, viz:

1,929	cords of stone, at $10 per cord	$19,290 00
15,600	lineal feet crib timber, 30 feet, 13 by 13 inches, at 10 cents per foot	1,560 00
9,600	lineal feet for face, 45 feet, 13 by 13 inches, at 12½ cents per foot	1,200 00
30,240	lineal cross-ties, at 10 cents	3,240 00
3,600	piles, at 10 cents	360 00
4,000	lbs. 1⅛-inch bolt iron, at 4½ cents per lb	180 00
39,600	feet 3-inch plank for deck, at $12 per thousand	475 20
1,200	lbs. 6-inch spikes, at 9 cents	108 00
		26,413 20
	Add labor	6,790 00
		33,203 20
	Add 10 per cent. for contingencies	3,320 32
	Total cost of the work	36,523 52

Harbor of Black Lake, Michigan.

The plan adopted for the improvement of this harbor was the one recommended in my report to the Bureau of the Corps of Topographical Engineers, accompanying my survey of this lake, under date of December, 1849.

This report recommended two distinct points as proper for the location of the improvement at this place, and are marked on the map of that survey as the lines A B and C D. The line C D has been adopted; on it I have located the improvement. The limited amount of the present appropriation of $8,000 made it difficult to suggest a judicious mode of expending it. After mature consideration it was thought best to apply it to the carrying out of the plan of the work by founding the southern or windward pier. To effect this, the usual mode of first sinking the cribs and driving the piles used in them was reversed; the piles of the pier are first driven and capped, and a deck is then placed upon the piles in the usual mode of bridge-piers; after this is effected, the piers are wharfed up and made solid, similar to the usual piers. *The advantages of this mode of* constructing piers, in the

incipient stages of a work situated like Black lake, is that it affords an immediate facility of receiving the stone required for the work immediately upon it, and over the cribs, and saves the expense of scowing and handling it a second time, as, when wanted, the deck can be opened and the stone dropped into the crib below, its place of final deposit.

This work is situated at the foot of Black lake, and, being isolated, it required the necessary buildings for the men to be erected, which, together with the preparation of machinery, consumed some time. Two hundred feet of the piling have been driven and decked, and it is expected that, by the close of the season, a sufficient length will be constructed to allow the reception of stone. The work of the present season may be considered as constructing an auxiliary work, and is also at the same time a portion of the general plan.

The general plan embraces two parallel piers extending into Lake Michigan, as also a cut through a spit of sand which separates Black lake from Lake Michigan. A full exhibit of this plan is contained in my report on this work of December, 1849. The estimated cost of this work, as per detailed estimate accompanying that report, is, for its completion, $105,225 78; leaving, after deducting the present appropriation, $97,225 78 as its final cost; which sum, without some untoward circumstance should attend its future prosecution, I think will be sufficient for its completion.

Harbor of Grand River, Michigan.

The plan proposed for the protection of this harbor consists, first, in securing the base of the high-sliding sand bluffs, which constitute the southern bank of the river, extending from the town of Grand Haven to its mouth, from the action of the currents of the river, by which they are undermined, and the sand composing them carried by its force into the lake, facilitating the formation of bars. For this security, it is proposed to drive at the base of the bluffs a line of strong sheet-piling of 2,361 feet in length. This piling will also have another beneficial effect, of preventing the river forcing (by the action above mentioned) a passage through this bank, and thereby creating a new outlet into the lake, which, from the extent of the encroachments of the river on this bank since my survey of 1849, is apprehended. Should this take place, it would prove disastrous to the present entrance, and materially injure this harbor, one of the best on the chain of lakes. In addition to the above, the plan proposes the extension of two piers into the lake, contingent on the effect of first securing the above-mentioned bluffs.

The whole estimated cost of this improvement, as per the detailed estimate accompanying my report to the Bureau of Corps of Topographical Engineers, on the survey of this harbor, of December 15, 1849, to which I respectfully refer, was, for securing the base of the bluffs, $21,950; for extending into the lake two piers, $140,173; whole cost of improvement, $162,126; for which $2,000 only has been appropriated—a sum inadequate to purchase the machinery necessary for the work. Under these circumstances the work has been delayed, and not yet commenced.

The only mode suggested to make this present appropriation in any

way available would be by transferring the necessary machinery from some other work, and use it during late in the fall, when that work should be necessarily suspended. As the work to be done at Grand river is inside the harbor, it can be executed at seasons of the year, both late in the fall and early in the spring, when other works, subjected to the action of the lake, have to be suspended.

All of which is most respectfully submitted by your obedient servant,

JOHN R. BOWES,
United States Agent.

Colonel J. J. ABERT,
Chief of Bureau of Corps Top. Engineers, Washington City.

RACINE, WISCONSIN, *September* 2, 1853.

SIR: In pursuance of your instructions of May 31, 1853, I have the honor to submit a report of my operations as agent of the harbor improvement at Racine, Wisconsin, from the time I entered on the duties of said office as said agent, to wit, on the 25th day of February, 1853, to the 1st day of September, 1853. On the 6th day of April I received from the bureau a copy of a contract with C. C. Parks, esq., for furnishing materials for said harbor improvement.

On the 17th day of May I received from the bureau, of date of May 13, instructions to make an inspection of the piers, and report their condition, with an illustrative drawing and survey, and to submit my views as to the best mode of applying the means appropriated. In presence of said instructions, I made an inspection of the piers, together with a survey and an illustrative drawing of the harbor, and submitted the same to the bureau, together with my views as to the best mode of applying the means appropriated, on the 30th day of May; which report was, as I am informed, submitted to the board of engineers for western rivers and lake harbors, but their decision thereon has not been communicated to me.

Mr. Parks, the contractor, having failed to deliver the material contracted for at the time specified in the contract, I applied to the department for directions as to whether I should receive said materials or not, and was informed that the honorable Secretary of War had decided that "contractors could deliver materials when wanted, and as required, for which they would be paid at contract prices."

In conformity to said decision, I have received from C. C. Parks, esq., the following materials at contract prices, to wit:

8,967 pounds of iron, at 6 cents per pound	$538 02
10,890 feet white-oak timber, 12 by 12, at 12 cents per foot	1,306 80
120 cords of stone, at $7 25 per cord.....	840 00
	2,684 82

have received from the honorable Secretary of the United States Treasury two war warrants for $4,000 each....		$8,000
And have made the following disbursements, to wit:		
To C. C. Parks, for materials.....	$2,477 57	
Books and stationery.....	5 25	
Implements.....	2 57	
Labor for surveying and inspecting materials.	25 75	
		2,511
		5,488

On the 23d day of August I received directions from the bure under date of August 18, to put the present piers in thorough repair hereby submit my estimate of the cost of said work:

1,528 feet white-oak timber, 12 by 12, at 12 cents per lineal foot.....	$183
816 feet white-oak ties, at 6½ cents per foot.....	53
400 pounds wrought spike, at 7½ cents per pound	30
400 pounds cut spike, at 5½ cents per pound	22
15,000 feet 3-inch pine plank, at $12 per thousand	180
1,800 pounds bolt iron, at 6 cents per pound	108
120 cords of stone, at $7 25 per cord.....	870
Labor in putting in work.....	325
	1,771

The above estimate includes the building of a breakwater on t north pier for 160 feet inward from the lake shore, where the wav occasioned by a northeast wind, now break over and deposit large qu tities of sand between the piers.

This work I propose to do by bolting timber longitudinally on t top of the north side of said pier, and to be raised from one to th feet in height.

In order to complete the work, I think it will be necessary to exte the north pier 224 feet, and the south pier 352 feet. I would reco mend that the piers be extended in the direction indicated on the acco panying chart. I would give as my reasons for said proposed extensi and the alteration of the direction of the north pier, as follows: In t present situation of the piers, a sea caused by a north or northeast wi forms an eddy around the end of the north pier, and the waves roll i the harbor, causing great inconvenience to vessels laying at the whar at such times. By the proposed extension and alteration, in opinion, the heavy seas from the north and northeast would pass t south pier, and thus prevent the heavy seas from entering the in harbor, and that the deposit of sand which is now formed across t entrance to the harbor by said eddy would be carried past the end the south pier.

The cost of completing said piers, according to said proposed plan, I estimate as follows:

27,648 feet timber, 12 by 12, at 14 cents per lineal foot...	$3,870 72
[NOTE.—I would recommend that one-third of said timber be of pine, and two-thirds white oak. as it would be very difficult to float cribs, to where they are to be sunk, built entirely of oak; and, in my opinion, it would be no detriment to the work to have that portion which is under water built at all times of pine.]	
40,884 feet white oak ties, at 7 cents per foot.....	2,856 98
33,000 feet pine plank, 6 inches thick, $12 per thousand..	396 00
1,000 cords stone, at $6 per cord.....	6,000 00
22,000 lbs. bolt iron, at 6 cents per lb., 1¼ inch	1,320 00
1,800 lbs. wrought spike, 6 inches, 7½ cents per lb.....	135 00
Labor and mechanical work.....	2,800 00
One crane-scow and apparatus for same.....	300 00
Tools and implements.....	100 00
For hire of scows.....	100 00
	17,878 70
For contingencies, 10 per cent.....	1,787 87
	19,666 57
For dredging 22,500 yards, at 16 cents per yard.....	3,600 00
Compensation for agent for one year, at $120 per month..	1,440 00
Total estimate for completing the work.....	24,706 57
Estimated amount of balance of appropriation, and value of materials remaining after repairing present piers and paying indebtedness.....	7,251 78
Estimated amount of future appropriation necessary to complete the work.....	17,454 79

All of which is respectfully submitted.

J. A. CARSWELL,
United States Agent, Racine, Wisconsin.

J. J. ABERT,
Colonel Topographical Engineers.

OFFICE OF PUBLIC WORKS,
Milwaukie Harbor, September 2, 1853.

SIR: In obedience to instructions, I have the honor to submit the following report, accompanied by duplicate charts of the river and bay, with plan of the harbor at North cut, and estimates for the construction of the same. Since the date of my appointment, 1st of June last, I have been *engaged in rebuilding and putting* the scows and other pub-

lic property in condition to commence more active operations, and in making an accurate survey of the site of the proposed new harbor, and of the adjacent river and bay.

I submit the following report of my plans, and the reasons for them, with extreme diffidence, and more as suggestions, in which I fear your larger experience will discover but little of practical value. The direction given to the piers, N. 81° E., is recommended for these reasons:

1. It presents equal facilities of access of vessels from both directions.

2. It diminishes the probability of the formation of a bar by the action of a reflected current around the end of the north pier; for at the depth of 14 feet the direct current or action of the waves would not have the effect to form one at the point of rest.

The first reason is apparent; the second may require some explanation. The strongest prevailing current, as near as can be gathered from all the data I have, is from N. 46° E., or thereabouts. This would make the angle of incidence of the current upon the north side of the pier about 35°, which would give the current a direction along the pier without presenting too much resistance to it, leaving it to expend itself in counteracting the force of the current to the north; acting parallel with the shore, its deflected course would, it is true, be speedily overcome; but that section, if I may so speak, of the current which is thus governed by the resisting surface of the pier, without being much checked in its course, is made a barrier against the tendency of a reacting current from the shore around the head of the pier in a southerly direction. This last-mentioned current or action is the principal source of danger to the maintenance of a good channel once obtained.

If I am right in my hypothesis, the result will be, that the point of equilibrium or rest, and of course of deposit, will be somewhere north of the pier, probably near the shore; and, where there is much drift, it will be manifested by the formation of a point projecting into the lake.

On the other hand, the nearer at right angles the current meets the pier, the stronger will be the action of this off-shore current around the head of the north pier, where it will make its deposit at the point of meeting the current of the river.

A more northerly direction of the pier would only the more expose the harbor to the action of rough water from northeasters; while it is thought that, with this direction, and piers extended to 14 feet water, but little inconvenience will be experienced inside of the shore line in the roughest weather. I would observe that this point is near the geographical centre of the bay; that the assumed direction is almost perpendicular to the general direction of the shore, and very nearly bisects the bearing of both the north and south points of the bay, and of course holds the same relative direction to the current arising from the southeasters as from the north; the effects of the former of which are much stronger at this point than at the present mouth of the river, as the geography of the bay and harbor will at once show.

Although our heaviest winds are from the northeast, the influence of the southeast storms is hardly second to them. My own observation leads me to the conclusion, that the current from the latter direction is *ite as prevalent,* although not as powerful as from the former. Drift-

wood is deposited in large quantities upon the shore of the bay immediately south of the north point; and I find that a very large proportion of the bog or marsh, which floats down from the Menomonie after every storm, is also deposited at about the same point.

Another subject claiming attention preliminary to the commencement of the work, and one to which the attention of my predecessor, Captain Gunnison, topographical engineers, was called by bureau order of April 5, 1853, is the probable necessity of extending the south pier of the new entrance across the present channel, in order to insure the passage of the river at that opening. I am not aware whether a report was made in accordance with that order or not, but presume, from Captain Gunnison's having been shortly after detailed upon other service, that it was not.

The point of the greatest concavity of the river shore in the vicinity is very nearly at the proposed opening. The current impinges with some force from J to K, (see chart No. 1,) and still hugs the east shore closely to L, as is shown by the greater depth of water and the formation of the bayou, within the last three years, at B. The west side of the river having been docked and dredged to some distance below this site, the soundings on that side of course do not furnish data from which to judge of the tendency of the current on this side beyond the outlet to be furnished by the new opening. By far the greatest volume of water passes upon the eastern shore, and would naturally seek a free outlet to the east at any point, before a decidedly western direction is given to it by the concave shore, which last point would seem to be somewhere about I. By removing the dock line back from the point A, about 100 feet to the north of E, and giving it the direction A B to B, where it takes a still more easterly bearing to the base of the lake pier, it is respectfully submitted, that the probability of the river current accommodating itself to the new opening, without the coercion of a dam, is so strong as to warrant the trial. It will doubtless be a great misfortune, both to the local and general commerce of the lakes, to lose the fine harbor facilities presented by the five-eighths of a mile of the river below this point; and although it may be dispensed with without serious inconvenience at the present time, yet should the rate of increase of commerce upon the lakes, and of the business of this city of the last ten or fifteen years, hold good for as many more, it would indeed be unfortunate to place this portion of the river beyond the reach of improvement. If this plan should prove feasible, the construction of the new opening, so far from injuring the property for a short distance below the latter point, would at once lead to its improvement; and if two or three thousand dollars, expended by our local authorities, will suffice to keep the water good nearly or quite to the present mouth of the river, the value of the whole property in that direction will be rather increased than diminished, by the attraction of business to the vicinity of the new harbor.

Some modification of this plan of the south pier, both in direction and extent, will probably be deemed better adapted to the purpose contemplated.

With the opening constructed after such modifications as your better judgment *may direct, I deem it so probable* that the necessity of dam-

ming the river may be obviated, as to warrant its being left out of the plan and calculation in reference to the new harbor improvement.

The amount of drifting sand or alluvium in Milwaukie bay or river is extremely small. The exposed shore of the lake, for a long distance each way, is of clay formation, with a substratum of coarse gravel and stone. The inroads of the lake (which at the North cut has been about 130 feet since 1846) furnish apparently but little drift, and seem to have no other effect than to uniformly lessen the depth of the water to a certain distance in the lake, as will be seen by the increased distance to 14 feet water since 1836. This encroachment of the lake has been so great as to uproot all of the trees which, in 1836, and even until within five years, were found upon the peninsula between the North cut and the mouth of the river, except two, which now have a very uncertain foothold.

In an ordinary northeaster the waves break entirely over this narrow beach into the river and the bayou, nearly down to the government buildings. The result of this must be, in a few years, the entire destruction of the upper portions of this peninsula, and very much change the aspect of the lake and river at this point. The effect of the new piers as breakwaters, however, would, in some considerable degree, check these inroads of the lake in their vicinity.

At the suggestion of Major Bache, corps of topographical engineers, I have indicated, by a dotted line upon chart No. 2, the locality of the lake shore in 1846, the time of the city survey at that place.

An element which will always influence the action of the ordinary currents of the river and lake to some extent, but of so irregular a character as to furnish no data for judging of its effects, is the sudden and frequent rise and fall of water produced by atmospheric changes. The average of this rise I have not been able to ascertain with any accuracy. It extends quite to the dam across the Milwaukie river, $3\frac{3}{4}$ miles from its mouth, and to a considerable distance up the Menomonie. At a distance of two miles up the former it causes a very rapid upward current, continuing for a few minutes fully equal to if not greater than the ordinary natural current of the river, causing a rise in that time of from 12 to 20 inches, and sometimes even more. This phenomenon, common to other points as well as this, is probably more felt here from the peculiar formation of the bay.

In bureau order to Captain Gunnison of April 5th, it is required that a report be made how (the North cut being made) any additional facilities to the commerce of the place are to be supplied. On the supposition that the present channel must be closed by the extension of the south pier, and from the fact that the southwesteen shore of the river, down to a point some distance below the proposed cut, and the eastern shore, nearly to the latter point, are already occupied with wharves, I can suggest no plan for additional facilities for the general commerce of the lakes. The following more particularly concerns the local commerce or business of the city of Milwaukie:

From the proposed cut to the mouth of the Menomonie river the distance is about 220 rods, or $\frac{11}{16}$ths of a mile. This river appears to *have the capacity* of maintaining a channel 100 feet wide, and of suf-*ficient depth for* vessels requiring eight feet water, for about one-eighth

of a mile, and of vessels requiring six to six and a half feet of water, for about three-eighths of a mile further, by a very sinuous channel. For about the first-named distance it is already wharved and occupied: on the north by the warehouses of the Milwaukie and Mississippi Railroad Company, and on the south at present as ship-yards, soon to be occupied by warehouses of the Milwaukie and Green Bay railroad.

Above this it passes through an almost bottomless bog or marsh, covered to a considerable extent with two or three feet water and of a width of from fifty to one hundred rods. These bogs I have already had occasion to mention in connexion with another subject.

During the latter part of the summer they break away on every rise of the river, and pass into the lake, or are deposited in the bayou of the Kinnekinic.

For the local business of this place and for the general commerce of the lakes, so far as its situation would subserve the latter purpose, this river presents facilities for the construction of a harbor of considerable capacity. Should a plan for the same be acted upon at an early day, before private improvements had extended any further, its distance from the North cut would be about the same as that of the latter point from the present entrance by the course of the river. The subject, owing to the situation of the Menomonie, is perhaps of too local a character to engage your attention with a view to its improvement as a national work; and I take the liberty to call attention to it only as a resource capable of being made, in a great measure, to supply the loss of the lower portion of the river, should the latter become useless by the construction of the new harbor. All of which is most respectfully submitted.

The surveys sent herewith are:

No. 1. Plan of the North cut, on scale of 100 feet to the inch.

No. 2. Chart showing same, together with adjacent portions of river and bay, on scale of 200 feet to the inch, with soundings.

No. 3. A chart of Milwaukie bay, on scale of 1,000 feet to the inch.

In obedience to the further requirement of bureau order of May 31st, I have the honor to submit the following estimate in detail of the cost of the harbor improvement at the North cut:

56,498 feet 12′ × 12′ white oak siding, at 15 cents.....	$8,470 20
1,037 white oak ties, each 24 feet, at $1 25 each.....	1,296 25
3,112 ....do.....do....20 feet, at $1 12½ each.....	3,501 00
70,000 feet 3-inch white oak plank, at $14 per thousand.	980 00
14,490 pounds inch-square bolt iron, at 4½ cents	652 05
17,500 pounds spikes, at 7½ cents.....	1,312 50
1,600 cords stone, at $6 per cord	9,600 00
Cost of labor on piers.....	5,395 00
116,380 cubic yards dredging, and removing same, at 12½ cents	14,547 50
	45,754 50
Add 10 per cent. for contingencies.....	4,575 45

Cost of work per estimate	$50,329 95
Deduct amount of present appropriation	15,000 00
Additional amount required	35,329 95

The city of Milwaukie has with much zeal voted to raise the sum of $50,000 to be used in the construction of the harbor at the North cut, should it be so expended as to meet the approval of the general government. No additional appropriation would be required until it should become necessary to improve the work or extend it beyond the present plan. The sum of the above estimates judiciously expended, it is thought, will construct good substantial pier-works from twelve feet water in the river to fourteen feet water in the lake, and open a channel 300 feet wide, with twelve feet water.

I have the honor to be, very respectfully, sir, your obedient servant,

H. W. GUNNISON,
United States Agent.

Col. J. J. ABERT,
Corps Top. Engineers, U. S. A., Washington, D. C.

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WAUKEGAN, ILLINOIS, *September* 1, 1853.

CAPTAIN: In obedience to a circular received from the Topographical bureau, dated May 31, 1853, I respectfully submit the following report, with enclosed estimate and chart of Waukegan harbor, in duplicate:

On the 30th of March last I received orders to proceed to Waukegan, to take charge of the harbor improvement at that place, and await further instructions.

During the month of April a survey and chart of the harbor was completed and forwarded to the Topographical bureau; also a report in relation to the location of the breakwater.

During the months of May and June two decked scows and a pile-driver were built, and the necessary tools procured for the prosecution of the work.

A contract for materials for this work was made at Washington, D. C., in the month of March, with Messrs Sweet, Ives & Hawley, of Milwaukie, Wisconsin, to be delivered as follows, viz:

One-third of the timber, plank and iron, on the 31st of March last; one-third of the timber, plank and iron, on the 30th of April last; one-third of the timber, plank and iron, on the 31st May last; one-third of the stone on the 30th of April last; one-third of the stone on the 31st of May last; and one-third of the stone on the 30th of June last.

The contractors totally failed to make any of the aforesaid deliveries; consequently, as soon as the machinery was built, the workmen were discharged and progress on the work ceased.

On the 23d ultimo instructions were received to "go on with the work;" and by a late decision of the honorable Secretary of War, in reference to contract matters, viz: "The materials may be received of *the contractors*, at contract prices, if furnished in quantities and at times

to meet the demands of the work; in default of this they may be purchased in open market." The contractors having failed to "furnish materials to meet the demands of the work," the necessary materials are now being purchased (at much less than contract price) in open market to "go on with the work," in accordance with said instructions.

Four cribs, from thirty to thirty-two feet each in length, will be framed, and the necessary materials in readiness as soon as possible, to be put in place, if the weather should permit, before the present working season closes.

The total amount of the present appropriation is $15,000; the amount expended is $3,899 82; leaving a balance on hand of $11,100 18. This amount will be expended by the 30th of June next, the end of the present fiscal year.

The amount of the estimate of the plan of the breakwater, 700 feet in length, adopted and approved by the War Department, is	$47,046 38
Deduct present appropriation	15,000 00
Probable amount required to be appropriated	32,046 38

It would be very desirable, both for economy and utility, to have this amount appropriated by Congress at its next session, in order that the breakwater may, as soon as possible, be made available as a harbor of refuge for the vastly-increasing commerce on this lake. The use of it one season would undoubtedly be the means of saving more property from destruction than would pay for its construction.

I would respectfully submit, to the consideration of the department, that pine square timber be used for side pieces below water surface, instead of oak. Pine timber has been used below water surface in the north pier at Chicago, and has been found to answer the purpose well. It can be procured in greater abundance, in lengths of 40 feet, than oak 30 feet in length; the price per foot being the same; is much easier handled; can be framed at nearly one-half the cost of oak, and below water surface has been found equally as durable.

That round white-oak ties be used below the water surface, as formerly, (the space inside the cribs being filled with stone to water surface,) as they cost one-half less, and found to answer the purpose equally as well as square timber.

That inch-square ragged iron bolts, as heretofore, be used to fasten the side pieces together, they having been found to suit the purpose remarkably well.

I also enclose a statement of the imports and exports, &c., of the port of Waukegan for the year 1852, taken from the books of the forwarding merchants.

I am, very respectfully, your obedient servant,

WM. GAMBLE,
United States Agent.

Captain J. D. WEBSTER,
Topographical Engs., General Supt., Chicago, Illinois.

Port of Waukegan, Illinois—Population in 1852, 4,560.

IMPORTS FOR 1852.

Merchandise, tons	2,145
Salt, barrels	3,350
Water, lime, barrels	430
Household furniture, (barrels bulk)	1,485
Lumber, feet	3,248,338
Apples, barrels	2,228
Wagons	83

EXPORTS FOR 1852.

Wheat, bushels	235,879
Oats, bushels	193,638
Corn, bushels	12,704
Barley, bushels	29,153
Flax-seed, bushels	3,028
Timothy-seed, bushels	750
Flour, barrels	5,752
Merchandise, furniture, &c., tons	170
Pork, barrels	665
Hams, casks	195
Lard, barrels	66
Butter, tubs	1,114
Eggs, barrels	225
Wagons	49
Reapers	30
Ship-knees, tons	50
Hides	530
Empty barrels	1,220
Wool, pounds	44,149
Flax-tow, pounds	135,835
Cord-wood, cords	2,288

Arrivals of steamboats and vessels, 1,247; and 32,600 tonnage burden employed.

The above is taken from the published statistics of Lake county, Illinois, by Elijah M. Haines, attorney-at-law.

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BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, September 7, 1852.

SIR: In the law for harbors and rivers there is an item in the following words: "For continuing the improvement of the harbor of Milwaukie, Wisconsin, to be expended at a point on the Milwaukie river known as the "North cut," surveyed by Lieut. Center, $15,000."

1st. The United States has never improved or attempted to improve this harbor by any opening at the "North cut." It is, therefore, no continuation of work at that place.

The survey of Lieut. Center, referred to in the law, was made, and with the estimates for his plan were printed, in 1836. These were communicated to Congress under a resolution calling for the same. But the bureau did not approve of the plan. Certain citizens of Milwaukie were anxious that it (the plan of Lieut. Center) should be adopted. In consequence of this difference of views no appropriation for the work at Milwaukie could be obtained before 1843, when an appropriation was made under the following restriction of law:

"That before the money hereby appropriated for the construction of a harbor at or near Milwaukie shall be expended, the corps of topographical engineers shall select from actual examination and survey the point of location of said harbor."

Under this direction of the law, a board of engineers, consisting of Lieutenant Colonel Kearney, Capt. Williams, and Capt. McClellan, was ordered to assemble at Milwaukie and select the position for the piers.

The report of the board is dated 28th May, 1843, and when received was, with other papers, adopted to illustrate the question (all of which are hereto annexed) submitted to the consideration of the War Department, by which it was decided to place the piers where they now are—namely, about the point A of the annexed drawing—which will be found to be about five-eighths of a mile south of the position now designated as the "North cut." As reference is made to the law of the last session to Lieutenant Center's plan, it is the map of his survey which is hereto annexed, and the "North cut" is supposed to be the position B.

The estimate submitted with this plan of Lieutenant Center amounts to $92,183. It is clear, in reference to this drawing, that, if the opening were to be made at B, it could not be kept open, and be of use, unless the river were to discharge itself through it; and it is equally clear that the river would not so discharge itself unless covered in that direction by some structure in the form of a dam across the river from about the termination of the probable locality of the southern pier of this "cut." It is also well known that the western shore of the river at this vicinity is a species of marsh extending in the direction C D about three-eighths of a mile before reaching the fast land. In all risings of the river, or above its lake level, this marsh is proportionally overflown with water. The necessary dam there, in addition to the cost of its construction, would require extensive precautionary and strong work to prevent the river in such circumstances from forcing its way around the west end of the dam, and forming for itself a new channel in that direction. The dam and its accessory works are not only an essential but a costly feature in any opening of the "North cut;" but this feature does not appear to have been contemplated by Lieutenant Center, nor does any estimate of its probable cost accompany the plan. From the drawing of Lieutenant Center, the dam alone would not be less than one-eighth of a mile long, and with its accessory works would not, I think, cost *less than two-thirds of his* estimate for the piers. This

would bring the probable cost of the work for an opening at the "North cut" to about $152,000.

The dam is not only an essential feature to an opening at the "North cut," but is a preliminary feature. At least the dam, if not constructed first, should be erected step by step with the work of opening at the "North cut," as I am clear in the opinion that the "North cut," without the aid of the dam, would be closed on the first severe blow from the east, and would, in twenty-four hours of such a blow, be made as firm land as it is now.

I am justified in this opinion by the fact that an opening called the "North cut" was once made; but as the river was not made to pass through it, it filled up as solidly as before the cut in one night.

Among the evils of the proposed "North cut" opening may be stated:

1st. Its great cost.

2d. That the wharves, being so near the opening, would feel so sensibly the sea wave in blows, that vessels would be with difficulty held to their wharf moorings, and would cause a heavy expenditure of pier-work to cure this evil, as was the case at Chicago.

3d. All the fine deep water and anchoring ground, which gives, or will give when the present work is completed, to this harbor so fine a character as a harbor of refuge to the commerce of the lake during storms, will be lost, as this part of the river will fill up.

4th. All the land on this river having been sold, there exist numerous vested riparian rights between the proposed "North cut" and the present opening. Under these rights a road has been constructed over the marsh from the fast land to the river shore south of the "North cut," and warehouses built at the river termination of the road. These circumstances would constitute sound claims for heavy damages, which the United States would have to pay.

5th. There has been already expended for the work erected at the opening adopted by the War Department $50,000, namely:

Appropriation of 1843	$30,000
Appropriation of 1844	20,000

And the estimate of last November, approved by the War Department and submitted with the general estimates to Congress, was for the extension and improvement of the works at the point A.

The question of a change of the position of the Milwaukie piers having been mooted before the committee of the House which prepared the river and harbor bill, the information now submitted was furnished to that committee through (and on application of) the Hon. Mr. Seymour, chairman of that committee, by whom I was informed that the committee would not entertain the proposition. The bill, therefore, went to the Senate without this or any reference to the "North cut." This reference, or direction, was an amendment of the Senate; but as the House adopted the amendment, and the bill has become a law, there seems to be no remedy under all its consequences but to execute the law.

The appropriation, however, is for $15,000. While this would have been a very efficient sum to extend and improve the piers which have *been* begun, it constitutes a very inadequate item even for a judicious *beginning at the* "North cut."

It is, therefore, respectfully recommended that work at the "North cut" should be suspended until Congress shall have an opportunity by an additional appropriation to furnish adequate means for a judicious beginning at the "North cut."

Respectfully, sir, your obedient servant,

J. J. ABERT,
Colonel Corps Topographical Engineers.

Hon. C. M. CONRAD,
Secretary of War.

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OFFICE OF THE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, December 17, 1852.

SIR: The second subject referred to the consideration of the board, by the instructions of the bureau of the 6th instant, is in the following words, to wit: "That the board investigate the matter of the position of the Milwaukie piers, and report thereon." On this reference the board have the honor to report, that without endorsing all the opinions contained in the various papers submitted with the inquiry—namely, the letter of the bureau to Captain T. J. Cram, dated March 13, 1843; that of T. J. Cram to the bureau in reply, dated April 3, 1843; the report of the special board on the subject, of which Lieut. Colonel Kearney was president, to the bureau, dated May 28, 1843; and, lastly, the letter of the bureau to the Secretary of War, dated September 7, 1852—they are of the opinion that the existing outlet of the Milwaukie river ought to be adhered to; and that all measures, whether in the form of works or otherwise, for the improvement of the entrance of that river, ought to be applied to that point.

I have the honor to be, sir, very respectfully,

JAMES KEARNEY,
Lieut. Colonel Topographical Engineers, President.

Col. J. J. ABERT,
Bureau Topographical Engineers.

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BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, December 18, 1852.

SIR: I have the honor to submit a report of the board of engineers upon the locality of the Milwaukie piers.

If the views of the board should meet your approbation, before they can be carried out some modification of the legislation of last winter will be necessary.

In order to meet a contingency of that kind, the report of the board, and the papers which accompanied it, are submitted in duplicate.

Respectfully, sir, your obedient servant,

J. J. ABERT,
Colonel Corps Topographical Engineers.

Hon. C. M. CONRAD,
Secretary of War.

Extract of a letter from Colonel J. J. Abert to Captain T. J. Cram, dated March 13, 1843.

REMARKS UPON THE MILWAUKIE PLAN.

The plan here proposed is considered bad:

1. Because it contemplates to make an opening through the bank—a doubtful project when a good opening already exists so near.

2. Because it would be very expensive; as, in addition to the piers, a dam must be made at A D to force the river through the channel.

3. Because it would thereby destroy the good harbor and anchorage ground from the present mouth to the pencil line C D, which is now a harbor of refuge for craft not bound up, but merely seeking shelter from a storm.

4. Because it would seriously injure the value of property near the present mouth of the river—this being a natural mouth, which has existed as long as we have known the lake. The legal power to make so serious an alteration, without compensation for damages, is doubtful.

5. Because works at the present outlet would be less costly and more certainly efficacious, and more easily made.

6. The tendency of fluids, in impinging against the concave side of a curved shore, is to hug the curve and maintain its force against it, so as to form the best channel on that side.

7. But when a fluid impinges against the convex side of a curved surface, its tendency is to fly off from the surface against which it impinges in a direction tangential to that surface.

8. The current of the lake is the result of the prevailing winds, and the formation at the outlet of Milwaukie river unequivocally indicates a predominating littoral current from the north.

9. The river maintains a current to a certain distance into the lake, but only to a small distance, as the examination of the survey shows a line under water not over 75 feet from the mouth of the river, parallel to the shore of the lake, and not more than nine feet deep. It also shows that the river depth of 12 feet is not maintained more than throughout what may be properly called the river mouth.

10. The river current is, therefore, lost in this short distance, or overpowered by the littoral current from the north and the reaction of the lake.

11. Our efforts must, therefore, be to obstruct this littoral current and lessen the reaction of the lake upon the outlet.

12. We obstruct the littoral current by giving it a different direction, and we lessen the reaction of the lake by a pier operating as a breakwater.

13. And from the foregoing facts we have also determinated upon which side of the entrance the greatest extension of pier-work should be to accomplish the views of 12.

14. A pier in the shape of 1.2 will, therefore, probably cast off the littoral current from the north in the direction of the tangent line 5.6, and will tend to cast the deposits in that line as a regular consequence; *that is, silt or littoral* cement deposits.

15. Then the short pier at the south, giving to the river current a

decided direction to the concave surface of the pier, and that current hugging that surface, as I believe it will, to the end of the pier, will maintain the best channel near it; and on leaving the pier its tendency will be to make its deposits also near the tangent line; and the united tendency of this action with that from the converse surface before spoken of will, in all probability, be to throw to some distance any shoal that will form at the end of the pier, leaving a good entrance under the cover of this shoal at the south side.

16. These reflections are submitted to your judgment of the probabilities on the ground.

17. A different direction having been (I believe) already given to the northern pier at Chicago, of course that direction will now have to be preserved.

18. Having the northern (Milwaukie) pier well out, experience will indicate the best extent for the south pier.

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MILWAUKIE, *May* 28, 1843.

SIR: In obedience to your orders, we have assembled at this place for the purpose of determining the position of the piers for the improvement of Milwaukie harbor.

We have examined the river very carefully from above its junction with the Menomonie to its mouth; and we have made such surveys as we have thought necessary, for the purpose of comparing its actual state with the maps we have received from the bureau, as well as for the purpose of collecting and verifying the facts connected with the question before us.

We find the river, for the purposes of navigation, to differ materially from that represented on any of the maps in our possession. Below the bend, at which it has been proposed to open a new outlet—namely, the northernmost position proposed for the piers—the channel has a length of about three-fourths of a mile at all times navigable for first-class vessels; and so far it agrees with the map of the survey of 1836. This map does not, however, accurately represent the bearings of all this portion of the river, inasmuch as for the length of rather less than one-fourth of a mile it bears more eastwardly than the map would lead us to suppose. From the position of the proposed new outlet to the mouth of the Menomonie, we find the depth of water and breadth of the channel much less than is indicated by the map of 1836, if from the soundings upon it we are to infer that there is a free navigation thence to the Menomonie for the largest vessels at the lowest stage of the river. Our surveys lead us to the conclusion that they could not now ascend the river much beyond that position; and furthermore we believe that, at the lowest stage of the river, a vessel drawing $8\frac{1}{2}$ feet could not, without great difficulty, reach the wharves, the lowermost of which is about half a mile above it; for, besides the obstacle interposed by the shoalness of the channel, its want of breadth and the character of its hard gravelly bottom are sufficient impediments to the navigation. *The total distance of the* highest point of the river

now under consideration above the present outlet, you will perceive, is about one and a fourth mile, following the windings of the channel.

With these facts before us, and they are now, or the most material of them, as we believe, for the first time presented to the department, we cannot but deem it unnecessary to recapitulate the arguments set forth in the official reports referred to us favoring the opinion that the piers ought to be established near the present outlet of the river. They lead, in our judgment, to the same result, and are of themselves so conclusive of the correctness of that opinion, that we purpose very briefly to examine the question under their guidance alone.

Vessels of the largest class employed in the commerce of Lake Michigan, commanding a full freight as they nearly always do during the business season, load for the only obstruction upon the common route of communication with the ports of Lake Erie, namely, for the flats of St. Clair, to a depth at this time of 9 to 9½ feet—sometimes more. Now, assuming eighteen inches as the admissible depth of a bottom such as we find in Milwaukie river below the keel of a vessel under way, (and we think it may not safely be less in a narrow and winding channel,) there would be required an uninterrupted depth of ten and a half to eleven feet for the channel of the river in order to accommodate the commerce of the lake. This depth is to be found below the most northern position proposed for the piers. We do not find that depth above that position. Now, viewing the harbor as designed "for the protection of the commerce of Lake Michigan," we could not, in our judgment, be justified in recommending any measure the effect of which would be ultimately to destroy the only anchorage within it; and this, in fact, we suppose would be the result of closing the present communication of the river with the lake to the southward of the proposed opening. To show this, much argument is we think uncalled for, or, if it were necessary to insist upon it, a comparison of the present with the former condition of the bay and channel lying towards Kinnekinic (Boisgris) creek would be sufficient.

In 1836 there was a deep channel some distance into that bay, as you will see by referring to the map of Lieutenants Center and Rose. By some means a sand bar has been thrown across the mouth of this channel; and we have not now found behind it a depth of more than four or five feet, except in one detached hole. It has been filled up measurably by the silt carried into it from the low ground, and from the mud flats lying towards the Kinnekinic creek.

It is not doubted that the closing of the present outlet would follow the opening of a channel for the egress of the river north of it, unless measures were taken to oppose the action of the waves setting along the beach under the impulse of the southeasterly winds, which often blow here with considerable force and duration. In this event, the sedimentary matter from the bay, which now escapes into the lake by the outlet of the river, would be deposited, as we believe, in the deep channel and anchorage immediately north of it, to the destruction of the berth for large vessels.

In our opinion, the trade of Milwaukie, and the protection of the *commerce of* the lake, will ultimately require all the room and much *ore than is now to* be found for first-class vessels; and it is our duty,

therefore, to report against any project calculated materially to reduce it. And moreover, if we may express an opinion on the subject, it is to the interest of the town of Milwaukie to preserve the integrity of its harbor as a port of the first class.

For these reasons, if for these only, independent of others already before the department from other sources, we are of opinion that the outlet of the river ought to be maintained in nearly its present position; and that any excavations required for the passage of vessels into the harbor ought to be made rather northward of it, in the removal of a small portion of the beach.

To the selection of this position, in preference to the more northerly one, it is objected—

First. That the situation of the north point of Milwaukie, with reference to the northernmost position, is such as to afford protection to vessels approaching it when the wind is from the northeast, whilst near the present outlet they would be greatly exposed to such winds. To this objection is opposed the fact that the north point of the bay bears from the first position N. 23° 30′ E., or N. N. E. nearly, by compass; and that, from the present outlet, it bears N. 18° 10′ E., a difference of but 5° 20′, or less than half a point. But, in fact, neither of these positions would have the protection of that point of the bay against winds from the northeast, and even between that point of the compass and the north-northeast the difference is imaginary. Against winds from all other points of the compass, except those from the southeast, the protection is equal. When the wind is from the southeast, the advantage on the score of protection would be on the side of the position of the present outlet. In truth, however, the piers proposed to be erected there, if they have the proper length and direction, will afford incomparably more protection to vessels coming under their lee than can either point of the bay; nor can there, with such precaution, be any danger to them from the lee shore lying to the southward.

It is likewise objected, as we have already intimated, that the position of the present outlet of the river is such as to increase the distance for vessels bound to the business part of Milwaukie; and that for part of the way they would be obliged to fetch through a channel leading in the direction of the prevailing storms from the northeast, a course not elsewhere to be found below the town. Now, the distance upon this course is less than a quarter of a mile, and, as we ourselves have witnessed it, presents no serious obstacle to the progress of vessels under sail. It may be observed, however, that it would, if necessary, be easy to give to it a more acceptable direction. As to the rest of the river below the northernmost position proposed for the piers, it has the same general course as it has between that and the town; and the lowermost wharf does not exceed a mile and a quarter from the outlet.

During the progress of this investigation certain propositions were addressed to us by the corporate authorities of Milwaukie. The board considers itself not authorized to entertain these propositions; but that, nevertheless, as they contain matter for the consideration of the bureau, they are herewith transmitted for its information.

In conclusion, *we take leave to recommend* that, as soon as practicable, *a very minute and accurate survey* may be made of the river

below the canal company's dam of the Menomonie, below the head of navigation, and of the shores and anchorage of Milwaukie bay.

All which is respectfully submitted.

JAMES KEARNEY,
Lieutenant Colonel Topographical Engineers.
W. G. WILLIAMS,
Captain Topographical Engineers.
J. McCLELLAN,
Captain Topographical Engineers.

Colonel J. J. ABERT,
Chief of the Corps of Topographical Engineers.

MILWAUKIE, *May* 27, 1843.

GENTLEMEN: The board of trustees for the town having taken into consideration the suggestion made to one of our number relative to deepening the channel of the river above the Menomonie, have decided to propose to furnish hands and fuel to work the dredging machine to make the necessary excavation for that purpose, provided the harbor should be located near the site proposed by Lieutenants Center and Rose's survey, and have adopted a resolution to that effect, as hereunto annexed.

We are prompted to do this for the reason that it is apprehended that the want of sufficient depth, as the river now is, for first-class steamboats and vessels, may operate as an argument against the selection of that point by your board for the construction of the work; and though we think there are good and sufficient reasons why that circumstance ought not so to operate, yet to remove any objection which might grow out of it we make the proposal contained in the resolution.

On the subject of location, as regards the great interests of commerce, we could not hope by the expression of any opinion to influence your minds; but some facts exist which we presume we may, in all propriety, present for your consideration.

Are the prevailing storm-winds generally from the north or the south side of the bay? This you have no doubt inquired into and carefully investigated—the result of which is, that the heavy storms most disastrous to shipping are generally from northeast, and consequently produce a heavy sea on the south shore, while a comparatively light one is found on the north shore—thus rendering a passage into the piers easier the further north they are placed. Thus far we think the argument is in favor of Mr. Center's location over the present mouth or outlet of the river, as regards the general interests of commerce; and we think we will be sustained by you in the remark, that the great and paramount interests of the commerce of the lakes, as connected with our harbor, is not so much involved in any other question connected with its location as the one here referred to—external to the harbor—*the* security of vessels in making a port in hard weather.

But there are other considerations more local in their nature, but yet, *we trust, of sufficient* magnitude to command a share of your attention.

It has been suggested by some, and perhaps dwelt on by your board, that as the water inside the bar at the mouth is some fourteen to sixteen feet deep, that vessels might more safely enter there, merely for protection in a storm, than at the other site, where there is only eight or ten feet water. This argument would be entitled to consideration if it were admitted that the water would never be deepened in the upper section of the river; but this cannot be admitted, except upon the supposition that the present town of Milwaukie is to be abandoned; for so long as the town remains where it is, so long as machinery is propelled by the water-power of the canal, so long *must* vessels visit the town and water power, to do which a channel sufficient for that purpose will, by some process, be produced wherever the piers for the harbor may be situated; so that we are forced to the conclusion that the present inadequacy of depth of water above the northern site cannot weigh heavily on your minds adverse to that location.

If, however, the piers should be constructed at the northern site, the sand, of which the bottom of the river is there composed, would, in the operation of one or two freshets, be washed out to a sufficient depth, and ultimately to the present depth of the lower section of the river. If it be objected to this wash that it would deposit and form a bar within or at the end of the piers, it might be answered that the deposit to be made in a like manner at the mouth of the river, by the accumulations on the outer bar, would probably be equal in amount; and further, that if this latter were to be removed by dredging, an equal expenditure would remove the former. On either ground, then, we suppose that in this respect neither site has much advantage over the other.

The difficulty which always must attend the transaction of business between the town and lake, with the harbor at the mouth of the river, will account to you for the extreme solicitude of our citizens on the subject, in which this board fully participates. The circuitous navigation around the island requires a peculiar wind to bring it from the mouth of the river to the town, and will forever subject the navigation to manifold delays and damages. It is idle to suppose a rival town can be built up about the south end of the marsh which can in any manner transact the commercial business to be done here within a few years; for the expense of filling up the marsh to the river for that purpose, on the one hand, or the expense of dredging the marsh to permit vessels to approach the dry bank, on the other hand, would, either of them, be too expensive to justify such an enterprise. But suppose that such a thing were possible as to build up a rival town about the south end and west side of the marsh, which would successfully prostrate the present town, would it be wise in a paternal government to sacrifice all the private and fixed interests of 3,000 or 4,000 people, unless imperiously demanded by high and paramount considerations of public policy? Such has not hitherto been the action of this government; but, on the contrary, private interests have always been considered sacred by her public functionaries, so far as they could be properly so considered without conflicting with the higher and more immediate interests of the public.

Believing, as we *do, that the northern site* will afford the most secure *entrance for vessels in stormy weather*, and that great and constant

difficulties must arise in the navigation of the inner harbor in case of the piers being located at the mouth of the river, the town will freely incur *all the expense of all the extra dredging* which may be required to give the river its proper depth from the piers to the town, if they should be placed by your board at or near the site surveyed by Messrs. Center and Rose.

A harbor within the bayou, between the island and lake, would be decidedly better for the interest of the town than the present mouth of the river, for the reason that the channel would be much more direct from that point, avoiding the circuit made by the west side of the island; and if there be any force in the suggestion that some advantage may be derived from the depth of water at the mouth, the same would apply here, as the water in the bayou has been found by your soundings to be about the same as that in the river above the bar, and nearly as capacious for the reception of vessels, with a high and dry bank on either side of it, to which vessels may be temporarily moored.

These suggestions are presented to you under a feeling of the highest consideration for the intelligence, integrity and spirit of fairness which we believe will govern your deliberations and final decision of this question; and we cannot take leave of the subject without expressing the hope, nay, the confident trust, that when your deliberations are ended they will result favorably to the permanent interests of the town.

We have, &c., L. WARD, *President.*

To Col. J. KEARNEY, and Captains McCLELLAN and WILLIAMS.

Resolved, That the foregoing communication be adopted and signed by the president of this board, and transmitted to the gentlemen to whom it is directed.

Resolved, That the town authorities will furnish all the men and fuel necessary to do all the extra dredging in the river above the piers which may be required by the officer in command, as necessary to make sufficient water up to the town, provided said piers should be located above the island; and that Byron Kilburn and D. Wells, jr., be, and they are hereby, appointed a committee, and fully authorized to enter into contract, on behalf of the corporation, with the commanding officer or superintendent of the harbor, to carry out the object of this resolution.

I hereby certify that the above communication and resolution were this day unanimously adopted at a meeting of the board of trustees of the town of Milwaukie.

JAMES S. BAKER,
Clerk of the Board.

MAY 27, 1843.

OFFICE OF GENERAL SUPERINTENDENCY,
Racine, Wisconsin Territory, April 3, 1843.

SIR: Having at various times during the last three years reflected upon the contemplated harbor at Milwaukie with a view to be prepared to act in the event of being officially directed so to do, and having again

inspected the sites since the receipt of your instructions of the 14th ultimo, I am as well prepared now as I probably should ever be to report the result of my observations and investigations of this problem.

Therefore, and in obedience to your instructions, I have the honor to submit, with deference, the following ideas of the case:

1. *Object of the harbor.*—The title of the act being "for the protection of commerce on the west shore of Lake Michigan," the case is tobe considered primarily with reference to vessels navigating the lake generally, and seeking shelter in times of storms, without the previous intention of ascending the Milwaukie river; secondarily, with reference to vessels bound directly to or from Milwaukie.

2. The *location*, therefore, becomes of great importance to the general trade along the west shore, and such a site should be selected, if we are to respect the act of Congress, as will subserve the wants of this general navigation, rather than the particular wants of the town of Milwaukie. If the demands of the coastwise trade generally, and of the vessels intending to pass through the whole length of the lake, be made secondary in the location of this work, the general government will be brought into the false position of building a harbor to subserve the particular interests of a village trade.

The site recommended in the report of J. M. Berrien, civil engineer, on the surveys of Lieuts. Center and Rose, would not so well subserve the general trade on the lake as it would the particular trade of Milwaukie. (See Sketch No. 1, which is traced from the map of that report.)

All other things being equal, therefore, the site at M should be adopted, for it will afford to all vessels the use of that part of the river three-quarters of a mile in extent below D; and, indeed, I cannot perceive why it will not also facilitate the trade directly to and from Milwaukie quite as well as the site B, since, in ascending from B, a vessel would have to sail precisely upon the same course as in ascending from M. (For comparison of ideas, see No. 3 of your remarks.)

3. *Natural channel of the river.*—The report seems to imply that the river formerly discharged itself through B. I can find no physical circumstances in the vicinity of B affording proof to my mind that the river's mouth was ever here; on the contrary, proofs, such as the character of the grass, age of soil and trees, direction of currents, shape of the valley, do exist, showing that the natural mouth has been generally confined between the limits indicated by the red lines Mm and Mm, which are about 1,113 feet asunder. Between these limits, I think, the river has always discharged itself, or, at least, manifested a decided tendency so to do. It is true, a storm of unusual fury may have choked this area, and forced the river out of its wonted course, and compelled it to discharge itself at a point without these limits; but, on an abatement of the storm, the river has sought its wonted course and found it between said limits again. At the present time, however, the river discharges itself nearer the northern limit than is represented on the sketch. It must be borne in mind that this map was made from a survey in 1836.

To locate the harbor at B would necessitate (in my own mind as it has done in yours) the construction of a dam at D, in order to force the river out of its natural course. It seems, however, that Berrien did not consider a dam necessary. There is no estimate for it in the report, nor is it alluded to. The dam would be more expensive than a mere inspection of the map has led you to suppose; for the nature of the ground is such, on the west side of the river, that a sheet-piling would probably have to be extended three-eighths of a mile to Walker's point, and possibly a similar sheet-piling would have to be adopted on the other side of the stream, in the event of the lake again rising to its level of 1838 and 1839. To make sure of forcing the Milwaukie river through B at all times, and against a recurrence of the contingencies of the last four years, the dam should be of permanent character, or it would not be maintained without great expense for repairs.

Again: where is the right to be found for turning a river out of its natural channel, or to construct a close dam across a navigable water channel? Common law forbids it, and without a statute law we could not; nor with such a law could we construct such a dam without paying all damages thereby accruing.

If the United States still owned all the land on the river, we should have the right, though I question even then the expediency of so doing. The land, however, is owned by individuals, whose rights must not only be respected, but in the present case it happens that these rights must be protected. The land is settled, it may be said, all the way from the present mouth around by Boisgris creek (Kinnekinic) to Walker's point. In this circuit there is quite a number of farmers who have rendered their lands valuable by improvements after purchasing the soil from the United States and paying the full value, not only of the mere numbers of acres specified in their patents, but also all the privileges, rights, and appurtenances naturally thereto belonging. Honesty and equity, if not law, would forbid the idea of infringing upon these without rendering full compensation for damages. I have estimated, in my own mind, without consultation however with the owners, that the aggregate damage to their property would be not less than $5,000,* which would positively accrue by stopping the river at D. There are other circumstances bearing upon this part of the discussion. The greatest and most convenient depôt of wood for steamers is at the mouth of Boisgris creek. Up this creek, also, there are limestone quarries, and the creek is navigable for flat-boats for some little distance; and it appears to me that this very convenient and natural canal, of a mile or two in extent, would be found of growing importance were the harbor located in M. If the point B should be selected, these advantages in prospect would be destroyed without gaining an equivalent.

(For a comparison of views, see your second and fourth remark.)

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* At the date of this report.

4. *Cost of construction.*—Supposing all other circumstances bearing upon the two sides equal, it is evident the location should be such as to give the least cost of construction. On this point I purpose to compare the relative merits of the sites B and M, and I will argue the question upon the data furnished by the map and report of Mr. Berrien.

Around each of the sites B and M you will perceive two red arcs of circles, having their respective centres at CC, which are points on the curves of 12 feet water inside the bars; equal radii of 1,113 feet carry us from these respective centres into only 13 feet lake water at B, and into 15 feet water at M, giving a decided advantage to M in any view of the case. At B, the distance from 12 feet river water to 12 feet lake water is 1,031 feet; the corresponding distance at M is only 907 feet. These distances are in the ratio of 1.088; hence, in the single item of pier-work, supposing no dam required at B, the cost of piering from 12 feet river to 12 feet lake water would be 12 per cent. less at M than at B. But in comparing costs the dam must be brought in. This would have to be 660 feet long, and from good foundation 12 feet high at least; and taking the sheet-piling across the marsh and the necessary dredging for a foundation into the count, I think the dam would cost at least half as much per running foot as the pier proper. Hence the proportion cost of pier-work (dam inclusive) at B, cost of pier at M :: 1,031 feet $\times \frac{6}{2}\frac{6}{0}$ feet, 907 feet, or as 1 to 0.7 nearly (A.) This proportion, although a partial result, affords a strong argument in favor of the site M.

Again: the report makes the amount of excavation above water at B $\frac{1}{10}$ of what would be required to be dredged from under water at the same site. Now, the amount necessary to be excavated above water, and dredged from under water, at M, is certainly not more than two-thirds of what would be required at B; hence the proportion: cost of excavation at B, cost of excavation at M, $1 \times \frac{1}{10}\frac{2}{3}$, or :: 1.0.6 nearly (B.)

To render the item of dredging homogeneous with the item of piering, (for the purpose of comparison, as will be seen in the sequel,) we have to refer to the report, where we find the cost of all excavation at B estimated at $25,035; leaving $67,148 for the cost of 1,660 running feet of pier-work, which gives $40 45 per running foot. In our comparison we have taken 1,031 running feet of pier-work proper at B, (exclusive of the dam,) according to the estimate in the report; therefore—

Cost of 1,031 running feet pier proper at B, $40 45.....	$41,703 95
Cost of excavation above and below water at B.....	25,035 26
Cost of 660 running feet at dam at site B, at $20 22½....	13,348 50
Cost of harbor at site B, (according to the estimate in the report,) and supposing only 1,031 feet pier-work proper.	80,087 71

We also obtain the proportion—

Cost of all excavation at B, cost of pier-work (dam inclusive) ..... at B :: 1 : 2.73

Very nearly (C.) For simplicity, let P (*m*) represent the cost of pier-work at the site..... M

E (*m*) cost of excavation at site ..... M

P (*b*) cost of pier and dam at site..... B
E (*b*) cost of all excavation at site..... B

We shall have, from the preceding proportions, by substituting this notation, the following proportions or equations:

From (A) P (*b*): P (*m*) :: 1.07, or P (*m*) = P (*b*) × 0.7.....(1)
(B) E (*b*): E (*m*) :: 1.06, or E (*m*) = E (*b*) × 0.6.....(2)
(C) E (*b*): P (*b*) :: 1.2.73, or P (*b*) = E (*b*) × 2.73.....(3)

Combining equations (1) and (3) we get—

P (*m*) = E (*b*) × 2.73 × 0.7. This being added to equation (2,) and the reduction made, will give—

P (*m*) + E (*m*) = E (*b*) × 2.73 × 0.7 + E (*b*) × 0.6 = E (*b*) × 2.511. Substituting in this value of E (*b*,) ($25,035 given in the report,) and we shall have (*a*) P (*m*) = $62,863; and, from the same report, we also have (*b*) P (*b*) + E (*b*) = $80,088.

The first of these expresses the cost of a harbor having 12 feet water from inside to outside at the site M; and the second expresses the cost of a similar harbor (dam inclusive) at the site B, both based upon exactly the same prices, and in accordance with the report; and whether the prices be too high or too low, is immaterial, so long as our present purpose in this discussion is merely to obtain the ratio of the cost at two sites. Whether the harbors would have cost, in 1836, or would cost, at the present time, these sums, or more or less, are questions which we are not now investigating.

Converting equations (*a*) and (*b*) into a proportion, we have P (*m*) + E (*m*): P (*b*) + E (*b*) :: $62,863: $80,088, which being reduced gives—

Cost of harbor at M, cost of harbor at B, 1.127; that is, for construction, exclusive of all damages to property; and there will be no damages to pay for site M. Hence the conclusion: a harbor at B, on the smallest scale admissible, would cost 27 per cent. more than one on a similar scale at M.

(For a comparison of ideas, see your remark No. 5.)

5. *Littoral currents.*—The prevailing winds come from directions embraced in the northeast quadrant of the horizon, and the resultant of these winds constitute a single force, F, having a direction coming from due N. E. This is established by general observation, but more particularly by a series of observations carried on for every day for one year, by means of a wind-gauge which I had erected, by favor of the keeper of the light, about a mile north of B. The observations were taken at morning, noon, and night, and the record gave the resultant of the prevailing winds, as here stated, from N. E.

This resultant or force F impinges against the shore at an angle of 62 degrees. Resolving F by the rules of mechanics into two components—one parallel and the other perpendicular to the shore—and we have for the former 0.47 F, and for the latter 0.88 F; the perpendicular component 0.88 F is destroyed by the resistance of the shore, but the parallel component 0.47 F has its full effect in producing the littoral current; and although this component is a little less than half the direct force F, it is sufficient to produce a decided current parallel to the *shore,* and in a direction varying not much from north to south. The *practical test of the* truth of this is found in the fact, that one of the

ost experienced shipmasters on this coast of the lake informs me that s vessel, heading to the north under a pretty stiff south wind, on be- g anchored off the mouth of the river, generally turns completely ound, in virtue of this current, in spite of the south or southeast eeze. (See your remarks in No. 8.)

6. *Shape of pier.*—You will recollect, the survey upon which you und your remarks No. 9 was made in 1836. Since then the lake has tained a maximum height of some two and a half feet above its then vel, and it has since fallen. (For precise information on these points, e my report to you of last October on the sketch pertaining to the arbor of St. Joseph.)

During this rise and fall, changes may have occurred at M to modify, some degree, the measures specified in your remarks No. 9, and which re drawn from the map of 1836. But in my recent inspection of the round, I could find no circumstances which can be regarded as mili- ating against the concluding paragraph of your remarks No. 9; the onclusions, therefore, of your remarks No. 10 stand unimpeached. A ery critical survey would perhaps throw more light upon these points, ut I conceive more light unnecessary to the main features of the question.

The application of the principles in 6th and 7th of your remarks may, ithout doubt, be rendered available, and to a good purpose, at the site M.

In the last bend of the river, where it is unobstructed by the action of he lake, and may be said to be left to its own natural power, you will erceive it maintains a depth, on the concave side, of fourteen feet. Here, y calculation, I find the radius of curvature to be 1,984 feet, and the idth of the mean cross section about 250 feet. To apply these natu- al data with a view to carry out your idea, you will perceive I have rawn a pier with this radius of curvature at the site M; comparing ny red pier with your pencil sketch, which are on the same scale, one annot fail to observe a near approximation to an equality in their curva- ures. It also strikes me it would not only be well to take the natural adius of curvature for the pier, but also the breadth of the mean cross ection of the stream at the same place, (250 feet,) as a guide in fixing pon the width between the piers. It should not be greater than this, nd perhaps it ought to be as small as 200 feet, hoping thereby to en- ble the river to maintain something like a depth of from twelve to ourteen feet between the piers; 250 feet is the maximum width in- ended by Mr. Berrien.

From all that precedes, therefore, it may be safely inferred that the bjects embraced in 10, 11, 12, and 13 of your remarks, will be best ccomplished by a pier like the one you have drawn in pencil on the ap you sent me.

7. *Direction of the pier.*—In the analysis of this important part of he problem, for the present I shall take the direction which your pen- il drawing indicates, and which is very nearly the same as indicated by ny red pier on sketch No. 1. But to make the analysis clear, I make a rawing (No. 2) on a quadruple scale, but in other respects the same s exhibited on sketch No. 1, or on the map you sent me.

The particles which will constitute the shoal, suggested in your re- narks 17, will be *acted on or animated* by the following system of *orces, to wit:*

1st. The littoral forces *b b*, &c., impinging on the convex side of the pier, decompose *l l*, &c., each into components *p* perpendicular and *c* tangential to the pier. The velocity due to the perpendicular components is destroyed by the resistance of the pier, and some of the particles are precipitated; the remaining particles, however, are carried away along tangentially to the pier at every point by the components *c c*, &c.; of these components, all found between the normal littoral force *l* and the outer extremity of the pier will tend to impel the particles towards that extremity, and all that are found between the normal and the shore will tend to impel the particles towards the shore. The resultant of the components *c c*, throwing the particles outward, is found to be represented in magnitude and direction (approximately) by *r*.

2d. The force of the river's current hugging the concave side, and escaping in a tangent at the extremity of the pier, which is represented in magnitude and direction by R.

3d. The force of the littoral current, which does not impinge on the pier, and therefore has its full effect; this force is represented in magnitude and direction by *l*.

4th The force of the prevailing wind represented in magnitude and direction by F.

The four resultants (of four systems, which are active in forming the shoal) are: *r*, R *b'* and F. The ratios of these four forces are expressed in the following equations: the direct force of the wind, F, being the unit or force of comparison $r = (\text{not more than } \frac{1}{8} l') = 0.06\ F \times R = (\text{at least} - 0.8S\ F\ b' = 0.47\ E.$

[Remarks.—These ratios are approximates sufficiently near the truth for our purposes, and the errors are such as would go against our argument; and therefore the results founded upon the ratios by the doctrine of probabilities, which we shall deduce, will be more near a mathematical certainty in proportion as the errors in these ratios are corrected. If we err, then, in the result, it will be on the safe side.]

Let the forces *r*, R *l'* and F, be transported parallel to themselves and all applied to the same point, say near to the extremity of the pier (figure 2, in sketch 2.)

Compound *r* and R, and we shall have their resultant, R', which is almost confounded with R, because, *r* is so small and so nearly parallel to R, as might have been anticipated. Compound F and *l'*, and we shall have their resultant, Q. Finally, compound Q and R, and we have the final resultant, S, whose line of direction will point out where, in all probability, the shoal will be formed. In proportion as the errors aforesaid in the ratios of the forces are corrected, the line or resultant S will be found to make a greater angle with the line of the shore, and consequently the shoal will afford greater space for shelter on its southeast side. This is what I mean would be the result in my remarks above.

Hence, so far as the general location of the deposit is concerned, it is certainly demonstrated that the views in your remarks 14 and 15 are correct; and I think the probabilities are that the shoal will be so formed, provided we extend the pier into fifteen feet of water, as you have indicated, so as to leave ample room to enter the harbor on the south side of it.

8. *Extent of pier.*—I have drawn my north pier in full red lines,

out to twelve feet water; short of this we cannot think of stopping; and it ought to be extended as soon as possible to fifteen feet, as you have indicated. The reasons why it should be extended as fast as possible may be given at some time hence.

By drawing the line of direction of prevailing winds through the extremity of the north pier, (which line, at Milwaukie river mouth, makes, as before said, an angle of 62° with the shore,) we get what I think should be the limit of the south pier. The line thus drawn, you will perceive, supposes the extremity of the north pier to be in twelve feet water; this would limit the extremity of the south pier to six feet water, (as it was in 1836;) and the south pier should be made so much shorter than even this limit as will answer the condition of giving, as you have remarked, a decided direction to the outlet of the river; also the condition of protecting the channel from the very slight counter littoral current that may be found to set from the south, after having annihilated the natural littoral current from the north, by interposition of the north pier.

All of which, colonel, I most respectfully submit to your better judgment and longer experience, claiming no originality for myself in the matter, and no merit apart from what may be found in an honest attempt to do justice to the questions submitted according to the best of my ability.

Very respectfully, &c.,

T. J. CRAM,
Captain Topographical Engineers.

Col. J. J. ABERT,
Corps of Topographical Engineers, Washington.

APPENDIX K.

Abstract of so much of the proceedings of the board of engineers of lake harbors and western rivers as show the considerations that influenced the board in naming the sums for the several works provided for in the estimate for the fiscal year ending June 30, 1855, *made in compliance with the regulations of the War Department of the* 10*th of September*, 1852, *in relation to river and harbor improvements.*

Major Bache, who had been making inspections of lake harbors by direction of the War Department, as communicated to him by the Bureau of Topographical Engineers, under date of the 30th of May last, and was engaged in duties connected with light-house services, returned to Washington at the call of the president of the board, and took his seat at it. Lieutenant Colonel Kearney also being present.

The board discussed various propositions connected with its duties; read over the reports which had not heretofore been submitted formally, correcting the date of that relating to Racine harbor by inserting June 25th instead of July.

The board took *up the subject of the* annual estimates, in compliance

with the regulations of the War Department of 10th of September, 1852, in relation to river and harbor improvements; for the reasons stated in each case, it agreed upon the sums embraced in the following items:

For military and geographical surveys west of the Mississippi..... $25,000 00

The estimate for the fiscal year ending June 30, 1854, called for $20,000, when there were $3,000 on hand. This balance is now expended, and as the board is of the opinion that the aggregate of this sum at the least should always be available, it inserts the amount, as in the margin.

For continuing the survey of the northern and northwestern lakes, including Lake Superior..... 50,000 00

The estimate of $50,000 called for last year is now removed, for the reason that the board believes no larger sum can be judiciously expended under the present organization and with the numbers engaged on the work. The estimate does not include the cost of an additional steamer.

For continuing the construction of a road from Point Douglass, on the Mississippi river, to the falls or rapids of the St. Louis river of Lake Superior, by the most direct and convenient route between these points..... 20,000 00

For continuing the construction of a road from Point Douglass to Fort Gaines, now Fort Ripley..... 10,000 00

For continuing the construction of a road from the mouth of Swan river, or the most expedient point near it north or south of said river, to Winnebago agency, at Long Prairie..... 5,000 00

For continuing the construction of a road from Wabashaw to Mendota..... 15,000 00

The four items above are adopted by the board on the recommendation of the officer in charge, Captain J. H. Simpson, topographical engineers. (See his annual report of September 17, 1853.)

For continuing the improvement of the navigation of the Mississippi below the rapids..... 84,000 00

This and the six following sums are called for by the estimate of Brevet Lieutenant Colonel Long, as given in his annual report of September 1st, and they are adopted without change, as being, in the opinion of the board, entirely reliable.

For continuing the improvement of the Des Moines rapids, in the Mississippi river..... 18,000 00

For continuing the improvement of the Rock River rapids, *in the Mississippi* river..... 18,000 00

For continuing the improvement of the harbor of Dubuque in the Mississippi river		$15,000 00
For continuing the improvement of the navigation of the Illinois river		16,000 00
For continuing the improvement of the navigation of the Missouri river		40,000 00
For continuing the improvement of the navigation of the Ohio, including the repair of the dam at Cumberland island		90,000 00
For continuing the improvement of the navigation of the Tennessee river		35,000 00
Brevet Lieutenant Colonel McClellan, in his annual report on this river, dated September 1st, estimates the cost of improving the navigation from Knoxville to Kelly's ferry, as far as it depends on the removal of rocks, logs, trees, &c., at	$24,740 00	
And as far as it depends on the building and repairing of dams, &c	39,296 25	
Amount	64,036 25	
To which he adds for contingencies 10 per cent.	6,403 62	
Total amount	70,439 87	
Unexpended balance of present appropriation	36,301 00	
Amount required	34,138 87	
Besides the cost of the improvement above described, Lieutenant Colonel McClellan estimates the cost of widening the channel at the Suck 440 feet, at	$78,109 50	
To which he adds for contingencies 10 per cent.	7,810 95	
Amount	85,920 45	
And for widening the channel at the Suck 340 feet, at	49,986 50	
To which he adds for contingencies 10 per cent.	4,998 65	
Total amount	54,985 15	

As the cost of either of these operations would increase the amount first stated to an extent the board believes would not be approved, either by the War Department or by Congress, it confines the sum to the accomplishment of the first-named object, and therefore asks only for the amount set down in the margin.

For continuing the improvement of the navigation of the Arkansas river 40,000 00

For the construction of two light-draught snag-boats, two machine-boats, one dredge-boat, and four discharging-scows, for the Mississippi, Missouri, Illinois, Ohio, and Arkansas rivers; and for repair of snag-boats, dredge-boats, discharging-scows, and machinery used on the same rivers..... $70,000

Lieutenant Colonel Long's estimate, in his annual report for the construction of the above snag-boats, &c., is $35,000. The board deems it proper to add $15,000 to it for repair of snag-boats, &c., that sum being 10 per cent. on the cost of those recently constructed.

For continuing the construction of a levee across the mouth of the river San Diego, California, and for other works to turn it into the former channel, False Bay..... 20,000

For the preservation of public property and contingencies of western river improvements, and for commutation of transportation of baggage and of quarters and fuel of officers, in cases no longer provided for by the Quartermaster's department, and allowances to meet extra expenses, under the special direction of the Secretary of War. 10,000

For continuing the improvement of the harbor of Burlington, Vermont..... 18,000

Brevet Colonel Turnbull, in his annual report of Burlington harbor, dated September 1st, recommends the extension of the breakwater 200 feet northward. His estimate to accomplish this, without the usual 10 per cent. for contingencies, is..... $20,006 26

With this provision, which the board thinks should be added, equal to..... 2,000 62

Amount..... 22,006 88

But, on the other hand, Colonel Turnbull does not take into account the materials which he believed would remain on hand to this work. These materials consist of "about 175 sticks of timber and 8,000 perches (or, say 15 cubic feet) of stone," besides "quite a large quantity on the present work that could be applied to filling new cribs. (See notes of inspection, by Major Bache.)

Subtracting the cost of these 8,000 perches of stone, at 40 cents per foot..... $3,200 00

175 sticks of timber, average length 42 feet, 7,350 lineal feet, at 8 cents a foot..... 588 00

Amount..... 3,788 00

Contingencies, 10 per cent..... 378 80

Total amount..... 4,166 80

Will leave for appropriation, $17,840 08; or say, as in the margin, $18,000.

For current expenses of the steam-dredge on Lake Champlain $7,500 00

For continuing the improvement of the harbor of Oswego, New York 21,000 00

The plan of operations for the next season, recommended by Mr. Hatch, the agent, and endorsed by Brevet Colonel Turnbull, the general superintendent, being approved by the board, the estimate for carrying it into effect was adopted, as follows:

For removing old work	$1,840 00
For rebuilding the same	4,143 00
For rebuilding counter-forts	2,989 95
For removing stone under water	1,950 00
For rebuilding pier in breach	6,501 70
For compensation of agent for one year	1,460 00
Amount	18,884 65
For contingencies, 10 per cent	1,888 46
	20,772 11

Or say, as in margin, $21,000.

For continuing the improvement of the harbor of Sodus bay, Cayuga county, New York 14,500 00

Brevet Colonel Turnbull, in his annual report, dated September 17, says of this harbor: "The entrance to this bay was so materially changed, since the survey made in 1845, that it was useless to commence the work for its improvement on the plan originally proposed for it. A survey was recommended, which being approved by the board of engineers, and ordered by the bureau, has been made, and the map transmitted to the bureau; until a plan for the improvement of the harbor is made, and the same revised by the board of engineers, an estimate cannot be submitted.

The board is of opinion that all plans should originate with the local agent or the superintending engineer, and not with the board; the duties of which, under the general regulations of the War Department, dated September 10, 1852, are confined "to examine, approve, modify, or reject, every project or plan of civil improvement proposed by any officer or civil agent under instructions from the chief of the corps." In the absence of a plan and estimate, it deems it proper however to suggest the sum set down in the margin, based upon the idea of covering the front of the bay on the lake side by a line of piling, and upon adding an amount sufficient to work up the materials obtained by contract, under *the late appropriation, of* $10,000. Thus

made, the estimate will stand, under the proper head, as follows:

For close-piling in front of the bay.....	$7,786 90	
Labor to work up the materials obtained under the appropriation of $10,000	4,000 00	
Compensation of agents for one year.....	1,460 00	
	13,246 90	
Contingencies, 10 per cent.....	1,324 69	
Total amount	14,571 59	

Or say, as in the margin, $14,500.

For continuing the improvement of the harbor of Sodus bay, Wayne county, New York $10,000 0

The last appropriation for this harbor was $10,000, and a like sum was recommended in the table of estimates which last year emanated from the bureau.

The superintending engineer, Brevet Colonel Turnbull, says in his annual report of this harbor, dated September 17: "The appropriation being so limited and inadequate to the repairs required, that I was very much at a loss where to begin and how to expend it with most advantage," &c.; and then, after stating that the breach and entire fastenings of the top timbers of the east channel pier had been repaired, concludes thus: "The whole of the east harbor pier requires to be rebuilt, and the west harbor pier also, at least so far inland to where it is covered by the accumulated beach;" and then gives the estimate "to complete the work now in progress at this place," by which is understood the repair of this work, and not the construction of any new works. This estimate the board deems a fair one to carry out the proposed measures, which it approves, and therefore inserts the amount in the margin.

For continuing the improvement of the harbor (Charlotte) at the mouth of Genesee river, New York..... 24,000 C

The last appropriation for this harbor was $20,000, the whole of which, it is inferred from Brevet Colonel Turnbull's report, will be absorbed by the repairs, amounting, for the most part, to rebuilding the west pier. The report concludes with the opinion that the east pier must be entirely rebuilt, and with this view presents an estimate. In this opinion the board concurs, and adopts the estimate, after adding the usual per centum for contingencies and unforeseen expenses.

The estimate of Brevet Colonel Turnbull ...	$21,530 00	
Contingencies, 10 per cent	2,153 00	
Amount required.....	23,683 00	

Or say, as in the margin, $24,000.

For continuing the improvement of the harbor at the mouth of Oak Orchard creek, New York..... $14,500 00

The last appropriation for this harbor was $10,500. The annual report of Brevet Colonel Turnbull states that "this season two new cribs have been added to this west pier, which lengthens it 290 feet, and the old work rebuilt;" and again, that "the east pier requires to be rebuilt, and both piers extended into the lake to 18 feet (13 feet?) depth of water;" and presents an estimate to effect these objects, the principal footings of which are:

For extending west pier 1,107 feet.....	$32,865 68
For extending east pier 1,151 feet.....	34,171 65
Rebuilding east pier 20 ft. wide and 373 ft. long	2,246 22
Rebuilding (east?) pier 10 feet wide and 420 feet long.....	1,495 43
Amount.....	70,778 98
Contingencies, 10 per cent.....	7,077 89
Total amount.....	77,856 87

By a sketch of the harbor dated in 1845, the west pier is represented as not extending out into the lake as far as the east pier by about 215 feet.

It is this pier that has been lengthened 290 feet during the present season, thus placing the head about 75 feet beyond the latter. The board, without expressing an opinion as to the propriety of the ultimate extension of both piers into the depth required by the lake navigation as provided for by Colonel Turnbull, entertains reasonable doubts whether the sum called for at once to effect this object would be sanctioned by the bureau, the department, or Congress.

It therefore confines the amount to the repair of the east pier, and to the extension of both piers to such length as will add to the usefulness of the harbor, and serve as a guide for future measures, namely, by 4 cribs of 30 feet each, or 120 feet, as follows:

For rebuilding east pier 20 feet wide for 373 feet	$2,246 22
For (east?) pier 10 feet wide for 420 feet.....	1,495 43
For extending east pier 120 feet.....	3,443 92
For extending west pier 120 feet.....	3,443 92
For compensation of agent one year	1,460 00
Amount.....	13,089 49
Contingencies, 10 per cent.....	1,308 94
Amount required.....	14,498 43

Or say, as *in margin, $14,500.*

For current expenses of the steam-dredge on Lake Ontario. $7,5(

This item was adopted last season on estimates prepared by the board, which sees no reason now to change it.

For continuing the improvement of the harbor of Buffalo, New York 33,00

Brevet Colonel Turnbull says in his annual report of this harbor: "There is required 350 feet additional length of wall to connect it with the old wall, which stands entire, and which will answer as well as a more expensive wall, being well protected by the sand which has accumulated in front of it. The quay-wall or towing-path is in a very dilapidated and uneven condition; I would recommend that it should be taken up, faced, and filled in with concrete, and the flagging relaid." The board coincides with Brevet Colonel Turnbull in these views, and adopts his estimate, with the single change of adding compensation for an agent in the immediate charge of the work.

For rebuilding sea-wall (350 feet)	$12,165 23
For raising 450 feet old wall 3 feet high, and coping 150 cubic yards, at $6.....	900 00
For taking up and relaying tow-path.....	18,621 25
For compensation of agent one year.....	1,460 00
Amount required	33,146 48

Or say, as in margin, $33,000.

For continuing the improvement of the harbor of Dunkirk, New York 30,00

A preliminary report upon the project for the improvement of this harbor was adopted by the board on the 5th of April last, which closes as follows: "It is recommended that a final decision of the whole subject of the harbor of Dunkirk be defined, till a personal inspection and examination shall have been made by the board." No such personal inspection and examination of the harbor has yet been made by the board. These, however, have been made by an individual member of it, Major Bache, from whose notes on the occasion the following is extracted:

The proposed project "is not the action of the board, but will probably be adopted, though with some slight modification; see no reason to change it, except that Brigham point beyond Battery point, and four miles distant from the town, not laid down on the map on which the design was made, may change it, by varying slightly the direction of the works."

On the supposition that the general features of the proposed plan will be finally adopted by it, the board desires to *provide suitable* means for commencing the works. The *sum of $30,000* recently appropriated for this harbor, and

now slightly reduced, by the cost of a rude day beacon placed on one of the ruined piers, and by incidentals, is, in the opinion of the board, wholly inadequate to do this with useful results, and this can only be secured by such means as will construct some 1,200 or 1,500 feet of the breakwater recommended; to this end an additional appropriation is required equal to the sum placed in the margin.

For continuing the improvement of the harbor of Erie, Pennsylvania..... $25,000 00

The estimate of Brevet Colonel Turnbull for this harbor is for—

Repairs to north channel pier.....	$250 00
Extending north channel 500 feet.....	11,200 00
Extending south channel 500 feet.....	11,200 00
Repairs to south channel.....	1,000 00
Protection of west end of harbor.....	20,000 00
Superintendent and clerk's salary.....	2,040 00
Amount.....	45,690 00
Contingencies, 10 per cent.....	4,569 00
Total amount.....	50,259 00

In his report, Colonel Turnbull says: "This fine harbor is very much exposed for the want of protection at the west end. The sea has made a breach in the low strip of land which connected the island on the north with the main land, and the travelling beach from the west is gradually filling the harbor, and the island itself is rapidly wearing away by the constant abrasion of the sea, and provides by an approximate estimate for the protection of the west end of the harbor."

This protection the board understands to be, "to stop the breach and check the abrasion of the islands"—measures, in its opinion, proper at once to be entered upon for the safety of the harbor. It also approves of so much of Colonel Turnbull's estimate as provides for the repair of the two channel piers, but not of the extension of these piers, for the reason adduced by him, "that the bar which now exists beyond the piers would only be thrown further east in proportion to their extension." Omitting the items for this extension, the estimate will stand as follows:

Repairs to north channel pier.....	$250 00
Repairs to south channel pier.....	1,000 00
Protection at west end of harbor (approximate).	20,000 00
Superintendent and clerk's salary.....	2,040 00
Amount.....	25,619 00

Or *say, as in the margin, $25,500.*

A letter was addressed to the bureau by the board, asking that certain surveys be made at Dunkirk, as necessary to the properly digesting a project of improvement of that harbor.

For continuing the improvement of the harbor of Conneaut, Ohio..... $11,500 00

The last appropriation for this harbor was $10,000. During the past season the following repairs have been made: "Entirely rebuilding the outer angle of the west pier from the surface of the water; a portion of the east pier for the distance of two hundred and seventy-five feet; and the same pier has been extended (repaired) inland for the distance of two hundred and twenty feet." See report of the local agent, Mr. J. A. Potter, dated September 20, from which it is inferred that these constitute all the repairs required to place the works of this harbor in good condition.

For the next season the agent recommends the extension of the east pier 275 feet, and the west pier 325 feet, on parallel lines from the present pier, 160 feet apart, and at a cost of $19,855, exclusive of the compensation of an agent. This extension would bring the piers out into a depth of water which soon increases to more than twelve feet. The board, in consideration of the cost of the proposed extension, and of the propriety of so pushing out the works into the lake only so fast as to be able to note their effect, and from this to modify them, is of the opinion that it would be better to limit the length of the piers, for the present, to the inner line of the twelve feet water. With this restriction, the total length of the two piers would be 300 feet; the cost of which, taken *pro rata* from Mr. Potter's estimate for 600 feet, as recommended by him, would be..... $9,927 50
Add compensation of agent one year..... 1,460 00

11,487 50

Or say, as in the margin, $11,500.

For continuing the improvement of the harbor of Ashtabula, Ohio..... 18,500 00

Mr. Potter, also the agent at this harbor, says in his report already referred to: "That before we had reached this in our repairs, this whole angle (the outer plan of the east pier) was swept away, during a gale, to from three to six feet below the surface of the water. I also found a breach existing in the eastern pier, extending two hundred and *fifty feet towards* the shore—everything gone, to from five *to seven feet below* the surface of the water.

"The outer end of the west pier was also gone, from six to nine feet below the surface, for the distance of one hundred feet.

"If the weather continues favorable, this pier (the east) will be entirely completed this fall, and the outer end of the west pier secured."

This comprises all the repairs that were required for the works

For continuing the improvement of the harbor of Fairport, (Grand river,) Ohio $13,000 00

The annual report of Mr. J. A. Potter, also agent for this harbor, says: "The west pier at this point, reported to be gone for the distance of twelve hundred feet, to from one to three feet below the surface of the water, upon a closer and more minute examination it was found in a much worse condition. The timbers of the old cribs were found to be so much torn up and displaced, that it became necessary to remove the stones and old work to a much greater depth. For the distance of two hundred and fifty feet no foundation could be obtained, until everything was removed to from seven to nine feet below the surface." "Up to the present time the expenditures have amounted to about five thousand dollars. Three hundred feet, entirely through the worst portion of the work, have been rebuilt as above; the outer angle of the west pier thoroughly overhauled and repaired where necessary, and the outer end, refilled with stone, secured."

The whole length represented on the map that accompanies the report, as repaired, is, besides the head of the present pier, 475 feet in length. These constitute, it is presumed, the entire repairs necessary to put the works of the harbor in good condition; and there still remains in the treasury $2,500 to meet contingencies and incidentals.

Mr. Potter, in his report, further says: "I herewith submit an estimate for the proposed extension of the piers on the plan suggested to me by Major Bache, of the corps." The proposed plan is not described, but drawn on the recent survey. It provides for the extension of the east pier 500 feet, in continuation of the present line of that pier; and the extension of the west pier from a point of about 160 feet from where that pier begins to flare, outward for 400 feet, on a line parallel to the east pier, and for pier-work to connect the head of these 400 feet with the head of the present west pier. The board is not willing, at the present time, to pass an opinion of the propriety of this extension and modification of the harbor, but confines itself to lengthening of the east pier—a part of the design in question, should it be adopted—for 320 feet, to bring it out into the lake as *far as the west pier*, adding, for recon-

structing the pier on which the beacon is placed, say 60 feet additional.

The amount of pier-work called for by the plan recommended by Mr. Potter is—

For extension of east pier	500	feet.
For extension of west pier	400	do.
To unite the head of west pier, as at present, and the proposed extension of that pier	260	do.
Or, in all	1,160	do.

At a cost, without compensation of an agent, of $35,277 88

Confining the expenditures to extending the east pier out, as far as the west pier, will require a length of	320	feet.
Adding to this, for rebuilding beacon pier	60	do.
Gives of new pier-work	380	do.

Which, at a *pro rata* cost of the 1,160 feet called for by Mr. Potter's plan, at $35,277 88, will require	$11,556 54	
To which add compensation for agent one year	1,460 00	
	13,016 54	

Or say, as in the margin, $13,000.

For continuing the improvement of the harbor of Cleveland, Ohio 10,000 00

The board, in the absence of any estimate from the superintending engineer, and in consideration of the suspension, under its recommendation of the 9th of May last, of all operations at this harbor beyond a survey, &c., until the question of ownership and jurisdiction of the present works erected by the United States be settled, and the consequent availability of nearly the entire of the last appropriation, $30,000, reinserts the sum which it asked for the fiscal year ending June 30, 1855, as in the margin.

For continuing the improvement of the harbor at the mouth of Black river, Ohio 10,000 00

The last appropriation for this harbor was $5,000. In the absence of any annual estimates from the local agent for this harbor, the board is induced, from an examination of the notes and recollections of a member of the board as to the state of the works at the date of his inspection, to increase the amount named last year from $5,000 to $10,000, as in the margin.

For continuing the improvement of the harbor of Huron, *Ohio* 13,500 00

The agent for this harbor, Mr. George S. Patterson, in his annual report of the 1st September, says that he has built up 540 feet of the east pier from at least an average depth of 6½ feet water, and that he proposes, "during the remainder of the season, or as long as the present appropriation shall last, to build up the pier sunk to 4 or 4½ feet above the water, and still continue to sink, if circumstances shall warrant, but build up what is already sunk, and secure the same from destruction by the seas; leaving it perfectly safe in this respect until further appropriations shall be made by Congress to finish it."

The amount already expended on this 540 feet is $6,301 61, leaving a balance of the appropriation of $10,000 of $3,698 39; the whole of which, judging from the statement made in the following quotation from the report, it is supposed, will be consumed in building up the pier sunk to 4 or 4½ feet above water.

There is something over 200 feet of the east pier remaining to be built up from 6½ to 7 feet below the surface of the water, which will require a further appropriation of, say $8,000.

This amount the board considers excessive, and substitutes a sum proportional (less the machinery and boats) to the cost of the 540 feet in course of execution—namely, $3,125 23.

But this estimate does not include the repair of the west pier and pier-head. These objects are in part provided for in the Light-house bill, approved August 31, 1852, by the following clause: "For the repair of the light-house pier and pier-head in the harbor of Huron, on which the light-house is built, six thousand dollars;" which sum is in course of being applied, partly under the direction of the bureau, and partly under that of the Light-house board—$23,000 being required for the repair of the pier-head and light-house, leaving for the pier itself but $3,700.

But, according to the estimates before the board, the repair of this pier will cost $13,900; leaving a balance of $10,200 to be provided, and raising the estimate to $13,325 23; or say, as in the margin, $13,500.

For continuing the improvements of the harbor of Sandusky city, Ohio..... $28,500 00

The board has made an estimate for closing the breach through Peninsula point from data, as to distance, depth of water, and prices for materials and labor, taken from the records of the bureau and board, and from notes of its member, the aggregate amount of which is $28,400 84; which, agreeably to a rule adopted by the board of taking the nearest $500, is set down as in the margin. The board moreover desires *to record that it names* the entire amount

of the estimate to complete the work, for the reason that its character is such as not to admit of delay from one season to another, and that it is of the first importance if this harbor is to be preserved.

For continuing the improvement of the harbor (Monroe) at the mouth of the river Raisin, Michigan..... $10,000

The last appropriation for this harbor was $14,000; the whole, or nearly the whole, of which there is reason to believe, from the statements made in the letters of Mr. Darrah, the local agent, and the fact that but $2,500 remained undrawn from the treasury on the 12th of the month, will be consumed in repairing the piers, which, in the absence of appropriations, had become greatly dilapidated. No further appropriation it is presumed, therefore, is required to put them in proper condition; but as the board is of opinion that they should extend out to the maximum draught of lake navigation, namely, 12 feet, (their outer end being now in only about 10 feet water,) or for about 150 feet each, or in all, 300 feet, it deems it proper to suggest an appropriation to effect this object.

To make this extension will require 10 cribs of 30 feet, at $860 each	$8,600 00
Compensation of agent one year.....	1,460 00
Amount.....	10,060 00

Or say, as in the margin, $10,000.

For current expenses of the steam-dredge on Lake Erie .. 7,500

This item was adopted last season on estimates prepared by the board, which sees no reason now to change it.

For continuing the improvement of St. Clair flats, Michigan..... 45,000

Captain Canfield's estimate, appended to his annual report of September 1st of the present year, is made for three channels, for widths of 300 feet and 600 feet respectively.

For deepening the eastern channel from South pass for a width of 300 feet	$94,600 00
The same for a width of 600 feet.....	204,600 00
For deepening the middle channel from South pass for a width of 300 feet	39,091 87
The same for a width of 600 feet.....	67,205 62
For deepening the western channel from *South pass for* a width of 300 feet	64,547 25
be same for a width of 600 feet.....	141,967 75

The board, for the reasons adduced by Captain Canfield, is of the opinion that the middle channel should be adopted for improvement, and moreover that the lesser width, also recommended by him, be first opened; and that hereafter, should the operations prove successful, and the wants of trade call for a greater width, that it then be increased to at least 600 feet.

The cost of opening the middle channel for 300 feet in width, according to Captain Canfield, is, as before stated	$39,091 87
Add to this 15 per centum not provided for by him, but adopted by the board, to cover incidentals and unforeseen expenses	5,863 78
Total amount	44,955 65

Captain Canfield estimates the whole quantity of excavation at 112,455 cubic yards, which, if divided by 800—the number of yards a dredging machine of good working capacity may raise in a day—will give 135 as the number of days so employed; a number less, certainly, than the working days of a year, even in that estimate. It will thus appear that the work may be executed in a single season; and so believing, the board deems it true economy, and for the interest of the lake trade, that the means should be on hand to accomplish the entire work in that time; it adopts, therefore, the estimate of $44,955 65; or say, as in the margin, $45,000.

For continuing the improvement of the harbor at the mouth of Clinton river, Michigan $5,000 00

The plan for this improvement is by Captain Canfield, topographical engineers, and is dated the 22d of September last. It contemplates the deepening of the entrance to nine feet for a width of 100 feet, within a close-piling, for the sides of the cut, 140 feet apart; the whole length of the cut and piling being 2,400 feet. His estimate of the cost of carrying out this plan is:

For 2,400 piles 15 feet long, at 75 cents each	$1,600 00
Driving 2,400 piles, at 20 cents each	480 00
Dredging 21,958 cubic yards, at 12 cents per yard	2,634 96
Cost of horse pile-engine	900 00
Amount	5,614 96
Add for contingencies, 5 per cent	280 79
Total amount	5,895 75
Present appropriation	5,000 00
Required	895 75

This amount the board proposes to increase to the sum placed in the margin, for the reason that it believes it would be expedient to provide for the cost and driving of a sufficient number of piles for a close-piling for the entire length of the sides of the cut, which, by measurement on the map of the survey, is 2,400 feet; that it deems it proper to provide for the employment of a local agent to superintend the operations, and to add the usual 10 per centum for contingencies, instead of five per centum; and lastly, to submit only $4,700 as on hand from the present appropriation, $300 having been drawn from the treasury for the survey. It is presumed, with these corrections and alterations, the estimate will stand as follows:

4,800 piles 15 feet long, at 75 cents each.....	$3,200 00
Driving 4,800 piles, at 20 cents each.....	960 00
Dredging 21,958 cubic yards, at 12 cents per yard.....	2,634 96
Cost of horse pile-engine.....	900 00
Compensation of agent one year.....	1,460 00
	9,154 96
Contingencies, 10 per cent.....	915 49
	10,070 45
Balance of present appropriation.....	4,700 00
	5,370 45

Or say, as in the margin, $5,500.

For continuing the improvement of the harbor (Grand Haven) at the mouth of Grand river, Michigan..... $20,000 00

The original plan for the improvement of this harbor is from J. R. Bowes, local agent, dated December 15, 1849. It provides for the protection of the south side of the river, from a point just below the tower of Grand Haven, 2,361 feet towards the mouth, from the action of the stream, which, by impinging upon the shore and undermining the sand-hills at that point, furnished materials for the formation of the shoals or bars in the lake, and in so much obstructs the entrance into the river. The annual report of the same agent, dated the 19th of September last, states, that besides this evil resulting from the impinging of the current on the shore, fears are entertained of "the river forcing a passage through this bank, and thereby creating a new outlet into the lake," which, in his opinion, would prove disastrous to the present entrance, and materially injure this harbor, one of the best on the chain of lakes. The cost of giving this protection the agent estimates at $21,950.

Besides this measure, the design of 1849 contemplates *the construction of* two parallel piers at the mouth of the

river, at a cost of $140,173, but only in the event that the first measure should not prove successful in securing a proper draught of water into the river. The words of the agent are: "After this bank is secured, and its effects on the centre bar fully tested, if found not to remedy the evil, I would propose two parallel solid piers into the lake," &c. The first measure, in the opinion of the agent, is one of primary and pressing necessity; and the second only required in the contingency named.

In the justness of these views the board fully concurs, and hence deems it necessary to recommend the providing the means required to carry out the first-named measure.

The sum estimated by the agent for this purpose, as already stated, is	$21,950 00
Appropriated and still available	2,000 00
Leaving	19,950 00

Or say, as in the margin, $20,000.

For continuing the improvement of the harbor of Black Lake, Michigan $20,500 00

The original survey and design for a harbor at this place were made by J. R. Bowes, agent. The latter is dated the 24th of October, 1849, and it was approved by the board of engineers on the 9th of May, 1853, in reporting on a letter of the same agent, dated the 30th of April preceding; was adopted by the bureau.

Its general features consist of a cut 275 feet wide and 10 feet deep, through a strip of land which separates the lake from Lake Michigan, and the carrying out of two parallel piers at the like distance of 275 feet apart, namely, from the cut into the latter to a depth of 20 feet.

Two sites for the cut and piers were suggested by the agent, and, for reasons given in his report, the one designated by the letters C D on the map accompanying it, was preferred by the board.

The cost of carrying out this plan he estimates at	$105,225 78

Made up as follows:

For excavation	$37,176 80	
For two solid parallel piers	38,015 00	
For sheet-piling (for each)	10,468 00	
For labor	10,000 00	
	95,659 58	
For contingencies, ten per centum	9,560 98	
Total amount	105,225 78	

It will be seen that the plan is made up of two principal measures: first, the construction of the piers, and second, the cut between the lakes. The board is of opinion that the former should take precedence, and with this view names a sum to carry out the proposition, so modified as to limit the depth to which the piers should extend, or to ten feet, the depth of the cut.

By the estimate of the agent, the cost of the two piers, carried to twenty feet water, with an aggregate length of 2,360 feet, is:

For materials		$38,015 00
For labor, taking a *pro-rata* sum of the $10,000 put down as the balance on the pier	$38,015 00	
And the sheet-piling of cut	10,468 00	
Or in all	48,483 00	
		7,585 88
Amount		45,600 88
Contingencies, ten per centum		4,585 58
Total amount		50,186 46

as the cost of 2,360 feet of piers, extending from the shore to the depth of 20 feet water, on an average depth of 10 feet.

To carry out the piers to a depth of 10 feet would require a length of 670 feet, or an aggregate length of 1,340 feet, on an average depth of five feet; to construct which, taking the same rule of cost per lineal measure, in view of the enhanced price of labor and materials, will require	$28,640 00
Subtract amount already appropriated	8,000 00
Leaves to be appropriated	20,640 00

Or say, as in margin, $20,500.

For continuing the improvement of the harbor of St. Joseph, Michigan $18,000 00

In the annual report on this harbor, dated September 19th of the present year, the agent says: "The operations of this improvement for the present season have been directed exclusively to repairing its two piers, the completion of which will nearly, if not entirely, exhaust the present appropriation." This appropriation is $10,000.

Again, he says: "After these repairs are finished, to *perfect the improvement* of this harbor a further ex-

tension of the south pier will be required," and he recommends "six hundred feet as a maximum length;" still leaving the north pier standing further out in the lake, by 275 feet; and as the windward pier, or the one against which the drift at this point accumulates, it should have the greater length. In the above views of the agent the board concurs. His estimate for the extension is $36,523 52; but as it would call for the construction, putting in position, and finishing off, 20 cribs of 30 feet in a single season, the board deems it advisable, particularly in view of the large amount of the estimate, to confine the appropriation at present to the extension of the pier for half that distance—namely, 300 feet—which, assuming the same rate for lineal measurement given in the estimate, would require an appropriation of $18,262; or say, as in the margin, $18,000.

For continuing the improvement of the harbor of New Buffalo, Michigan..... $16,000 00

The design for the improvement of this harbor, as described in the annual report of the agent, Mr. J. R. Bowes, dated September 19th of the present year, is to cut a channel 300 feet in width through the sand spit separating the mouth of the Galien river, which at this point enlarges into a bayou or small lake from Lake Michigan, and to secure its sides with sheet-piling; and then to extend in connexion with it two piers into the lake of different lengths, the northern or weather pier to be 1,600 in length, extending over all bars, and terminating on a clay bottom in 25 feet water; the lee pier to be 700 feet in length, and terminating in 10 feet water. The board approves the main features of this plan; but it sees no reason, with the facts at present before it, to adopt the very unequal lengths given to the two piers.

A final opinion on this and other points it deems proper to reserve for further consideration. Conceiving, however, that the piers should extend out at least to 10 feet water, it approves of 700 feet each as the length of the piers—a length that would seem, by the report of the agent, to be necessary in order to reach that depth. Confining, then, the plan to two piers of 700 feet each, and leaving the cost of securing the sides of the cut until these are completed, the estimate will stand thus:

North or weather pier, 700 feet.....	$19,956 90
South or lee pier, 700 feet.....	19,956 90
Labor on the piers.....	11,468 70
Amount.....	51,382 50

Contingencies, 10 per cent	5,138 25
Total amount	$56,520 75
Amount already appropriated	8,000 00
Leaving to be provided	48,520 75

The period for the execution of this work the board considers it desirable to divide into three years, making for one year the amount to be appropriated, $16,173 58; or say, as in the margin, $16,000.

For continuing the improvement of the harbor of Michigan City, Indiana $19,000 00

The plan of J. R. Bowes, the agent for this harbor, as described in his annual report of the 19th of September last, consists of a single line of breakwater in 25 feet of water, (950 feet beyond the 12-feet curve,) of 2,000 feet on a course N. 61° E., very nearly parallel with the shore, to be composed of cribs 30 feet long, 30 feet wide, and 37 feet high, or 12 feet above the level of the lake.

His estimate for such a crib is	$4,742 59
And for the whole structure	321,000 00
Of which is already appropriated	20,000 00
Leaving to be appropriated	301,000 00

He says: "The board of engineers determined, in July last, that the profile should consist of a crib breakwater structure;" and again, that "the breakwater will be located in 25 feet of water, which is exterior, lakewards, to all bars of sand. It will consist of cribs constructed with close ends, 30 feet long, 30 feet in width, and raised 12 feet above the surface of the lake, according to the plan adopted by the board of engineers." These statements do not entirely agree with the record of the board, which, on the 24th of June, made a report on a plan and estimate for this harbor, dated the 28th of the preceding month.

In this report the board emphatically expresses its dissent from the character of the mole or breakwater "structure, which was to be founded in twenty feet water, and to rise eight feet above the surface of the lake;" and concludes by the opinion, "that the recommendation of the agent in this structure should not be approved, but that he be required to carry out the plan adopted for this harbor by commencing at a central point with the usual crib-work, and continue it in either direction as far as the available means will justify." This plan, it will be seen, calls for a *breakwater in twenty* feet water and rising eight feet above *the surface of the* lake, and not twenty-five feet water and

twelve feet above that level, on which the agent grounds his present estimate. To the first-mentioned conditions the board still mainly adheres, and assumes for the present purpose a depth of nineteen feet, and for the cribs a height above the water of six feet, and a breadth of twenty feet. A breakwater in that depth, having about the same water in advance of it for 250 feet, and within 400 feet of the twelve-feet curve, with a length of 1,090 feet, will fill the arc occupied by the work designed for twenty-five feet water, and covering the present pile-piers or landings of the town. The length of the work would thus be reduced from 2,000 feet to 1,090 feet, the height from thirty-seven feet to twenty-five feet, and the width from thirty feet to twenty feet.

The cost of the agent, by a single crib 30 feet long, 30 feet wide, and 37 feet high, is, as already stated, $4,742 59; and proportionally of the section for one of 30 feet long, 20 feet wide, and 25 feet high, approximately, $2,136 30.

And for 36⅓ cribs, the number required for a length of 1,090 feet, being the cost of the breakwater as modified	$77,619 90	
Deduct present appropriation	20,000 00	
Leaves a balance of	57,619 90	

Which being divided into three years, there will be required for each year $19,206 63; or say, as in the margin, $19,000.

For continuing the improvement of the harbor of Chicago, Illinois		$24,000 00
The estimate appended to the annual report of Captain J. D. Webster, dated the 1st ultimo, is for constructing an outer pier 500 feet long	$25,000 00	
Repairs to existing piers	10,000 00	
Dredging 30 days, at $100	3,000 00	
	38,000 00	
Contingencies, 10 per cent	3,800 00	
Amount	41,800 00	
Available of late appropriation	18,000 00	
Required	23,800 00	

Or say, as in the margin, $24,000.

For continuing the improvement of the harbor of Waukegan, Illinois		16,000 00

The breakwater proposed *for this harbor* is 700 feet long, *25 feet wide, 25 feet high, founded in 20 feet water.*

The estimated cost by the local agent, W. W. Gamble, approved by the superintending engineer, Captain J. D. Webster, topographical engineers, is	$47,046 38	
Amount already appropriated	15,000 00	
Leaving to be appropriated	32,046 38	

The agent says, in his report, "it would be very desirable, both for economy and utility, to have this amount appropriated by Congress at its next session," &c. The board would hesitate to recommend, even if it were probable Congress would sanction so large a sum, as it doubts whether it could, with the sum already appropriated, be properly applied in a single season. For this reason it recommends half the amount, which is, in its opinion, necessary to either of these objects, $16,023; or say, as in the margin, $15,000.

For continuing the improvement of the harbor of Kenosha, (formerly Southport,) Wisconsin		$15,500 00
The estimate of funds required to complete this harbor, as made by the local agent, Mr. Samuel Hale, and approved by the superintending engineer, is	$41,248 02	
Deduct value of materials and balance of present appropriation	9,894 32	
Leaves to be provided	31,353 70	

The plan on which this estimate is founded contemplates the extension of the piers, in all 800 feet, and also, it is presumed, the repair of the present works, and the necessary dredging. The board agrees with the agent that the north pier, as the windward pier, should be the longest of the two; but it is not prepared to say, "from two to three hundred feet."

Their relative lengths will best be determined as the piers are extended into the lake; and that this may not be done too rapidly, and in order to confine the amount within a profitable limit of expenditure for a single season, the board suggests for appropriation half the amount of the entire estimate, $15,676 85; or say, as in the margin, $15,500.

For continuing the improvement of the harbor of Racine, Wisconsin	11,000 0

The last appropriation for this harbor was $10,000, of which $9,079 is absorbed by the contract for materials, leaving a balance of but $921, which will work up, according to the approximate relations assumed by the board,

materials to the value of $2,302 50; leaving available then to the value of $6,676 50, which, taken from the estimate to complete the works, $17,454 79, will leave to be appropriated $10,778 29; or say, as in the margin, $11,000.

For continuing the improvement of the harbor of Milwaukie, Wisconsin $17,500 00

The agent in charge of this harbor estimates the cost of its completion at $50,329 95; from which deduct, already appropriated, $15,000; leaving to be provided, $35,329 95.

As the present appropriation is still available in either materials or funds, the board conceives half the balance above stated quite sufficient, with these, to apply judiciously in a single season. Half the balance above is $17,664 97; or say, as in the margin, $17,500.

For continuing the improvement of the harbor of Sheboygan, Wisconsin..... 11,000 00

The superintending engineer, Captain J. D. Webster, topographical engineers, in his annual report of September 1st, says of this harbor: "The work cannot be considered complete without the addition of 700 feet to the pier, put down by the county and town authorities." The cost of this extension he estimates at $26,936; he also provides, for strengthening the present pier, $3,064; from which he deducts $30,000. Amount (supposed) available of late appropriation, $8,000; leaving to be provided, $22,000, which, for some of the considerations which have governed in other cases, the board recommends may be divided into two seasons, by an appropriation of the amount asked for in the margin—namely, $11,000.

For continuing the improvement of the harbor of Manitowoc, Wisconsin..... 12,500 00

No works to form a harbor at this place have been commenced. All that was done during the past season, under the late appropriation, which was the first, was, according to Captain Webster, topographical engineers, within whose superintendency this harbor lies, to get on the ground "a small quantity of stones and a few sticks of timber, the contractors having failed, as in other instances, to fulfil their contracts." For this harbor Captain Webster recommends two piers, of 600 feet on the north side, and 800 feet on the south side, which, with machinery, &c., and contingencies at 10 per cent., he estimates to cost $32,402 42; subtract (supposed) amount unexpended of late appropriation, $7,000; amount required to complete

the harbor, $25,402, which, for the reasons adopted under the last head, the board proposes to divide into two equal parts, $12,701 21; or say, as in the margin, $12,500.

For current expenses of the steam-dredge on Lake Michigan..... $7,500 00

This item was adopted last season on estimates prepared by the board, which sees no reason now to change it.

For repairs and preservation of public property, and contingencies of lake harbors; and for commutation of transportation of baggage, and of quarters and fuel of officers in cases no longer provided for by the Quartermaster's department; and for allowances to meet extra expenses, under the special direction of the Secretary of War..... 20,000 00

The board, perceiving no cause for change, proposes the sum asked for last year, as in the margin.

For printing and distributing charts of lake surveys..... 1,500 00

The board sees no reason to change the amount asked for last year, which was the same as that set down in the margin.

For repair of instruments of the corps of topographical engineers..... 5,000 00

The board, perceiving no cause for change, proposes the sum asked for last year, as in the margin.

In the estimates for the next fiscal year, made from the foregoing notes, the board has complied with the instructions of the War Department of the 11th of December, 1852, which require that "the amount that can be advantageously expended on each work during the next fiscal year, exclusive of the balance remaining on hand of the appropriation already made for the same," shall be shown in a separate column. But the board has not given, in a separate column, "the probable amount necessary to complete each work," as also required by the same instructions.

The board, at the time it was engaged in the consideration of the items, had necessarily in view, in all cases, some general project or plan applicable to the wants of navigation. But such plan, from the very nature of the work, was not, and could not, always be treated as definite. In some cases such projects are in a measure experimental, in an engineering point of view, and especially with reference to detail, which, from cause exhibited in the progress of the work, are likely to require revision. In others, more full and accurate information of the locality was wanted; and, finally, there were cases also where *the board could* not but see that the final extent of the work must

be dependent upon the progressive demands of commerce, as the result of the development of the industrial resources of the country. As the board was, therefore, not able to fill that column in the precise manner indicated by the instructions of the department, it has to refer to the memorandum relating to each item of the estimate for the ultimate sum, if any, the board had in mind at the time the memorandum was drawn up.

JAMES KEARNEY,
Lieut. Col. Top. Engs., President of Board.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, November, 1853.

Estimate of funds required for the prosecution of certain works under the charge of the Bureau of Topographical Engineers, during the fiscal year ending June 30, 1855, *prepared under the direction of the board of engineers for lake harbors and western rivers, in compliance with the regulations of the War Department dated September* 10, 1852.

Object of expenditure.	Amount required.	Reference to acts making appropriations.			
		Vol.	Page.	Sec.	Date.
SURVEYS.					
For military and geographical surveys west of the Mississippi	$25,000	10	706	1	March 3, 1845
For continuing the survey of the northern and northwestern lakes, including Lake Superior.	50,000	10	706	1	.....do.....
Amount for surveys	75,000				
ROADS.					
For continuing the construction of a road from Point Douglass, on the Mississippi river, to the falls or rapids of the St. Louis river of Lake Superior, by the most direct and convenient route between these points	20,000	Pam.	30	1	July 18, 1850
For continuing the construction of a road from Point Douglass to Fort Gaines, now Fort Ripley	10,000	Pam.	30	1	.....do.....
For continuing the construction of a road from the mouth of Swan river, or the most expedient point near it, north or south of said river, to the Winnebago agency, at Long Prairie	5,000	Pam.	30	1	.....do.....
For continuing the construction of a road from Wabashaw to Mendota	15,000	Pam.	30	1	.....do.....
Amount for roads	50,000				

ESTIMATE—Continued.

Object of expenditure.	Amount required.	Reference to acts making appropriations.			
		Vol.	Page.	Sec.	Date.
RIVERS.					
For continuing the improvement of the navigation of the Mississippi below the rapids ..	$84,000	Pam.	56	1	Aug. 30, 1852
For continuing the improvement of the Des Moines rapids, in the Mississippi river.....	18,000	Pam.	57	1	.....do.....
For continuing the improvement of the Rock River rapids, in the Mississippi river.....	18,000	Pam.	57	1	.....do.....
For continuing the improvement of the harbor of Dubuque, in the Mississippi river.....	15,000	Pam.	60	1	.....do.....
For continuing the improvement of the navigation of the Illinois river.....	16,000	Pam.	60	1	.....do.....
For continuing the improvement of the navigation of the Missouri river.....	40,000	Pam.	56	1	.....do.....
For continuing the improvement of the navigation of the Ohio, including the repair of the dam at Cumberland island	30,000	Pam.	56	1	.....do.....
For continuing the improvement of the navigation of the Tennessee river.....	35,000	Pam.	60	1	.....do.....
For continuing the improvement of the navigation of the Arkansas river	40,000	Pam.	56	1	.....do.....
For the constructon of two high-pressure snag boats, two machine-boats and dredge-boat, and four discharging-pipes for the Mississippi, Missouri, Illinois, Ohio and Arkansas rivers, and for repairs of snag-boats, dredge-boats, discharging-pipes and machinery used on the same rivers	70,000	.....	.....	.....	.....
For continuing the construction of a levee across the mouth of the river San Diego, Cal., and for other works to turn it into the former channel into False bay.....	20,000	Pam.	60	1	.....do.....
For the preservation of public property, and contingencies of western river improvements, and of commutation of transportation of forage and of quarters and fuel of officers to cases no longer provided for by the Quartermaster's department, and for allowances to meet extra expenses under the special direction of the Secretary of War...	10,000	Pam.	60	1	.....do.....
Amount for rivers.....	456,000				
HARBORS.					
Lake Champlain.					
For continuing the improvement of the harbor of Burlington, Vt.....	18,000	10	552	1	June 11, 1844
For current expenses of the steam-dredge on Lake Champlain.....	7,500	.....	.....	.....	.....
Lake Ontario.					
ng the improvement of the harbor N. Y.....	21,000	10	552	1	.....do.....

ESTIMATE—Continued.

Object of expenditure.	Amount required.	Reference to acts making appropriations.			
		Vol.	Page.	Sec.	Date.
ntinuing the improvement of the har- of Sodus bay, Cayuga county, N. Y.....	$14,500	Pam.	60	1	Aug. 30, 1852
ntinuing the improvement of the har- of Sodus bay, Wayne county, N. Y.....	10,000	10	552	1	June 11, 1844
ntinuing the improvement of the har- (Charlotte) at the mouth of Genesee r, N. Y.....	24,000	10	552	1	.....do.....
ntinuing the improvement of the harbor ie mouth of Oak Orchard creek, N. Y...	14,500	10	552	1	.....do.....
rrent expenses of the steam-dredge on e Ontario	7,500	.....	.....	....	.....
Lake Erie.					
ntinuing the improvement of the harbor uffalo, N. Y.....	33,000	10	552	1	.....do.....
ntinuing the improvement of the harbor unkirk, N. Y.....	30,000	10	552	1	.....do.....
ntinuing the improvement of the harbor rie, Pa.....	25,500	10	552	1	.....do.....
ntinuing the improvement of the harbor onneaut, Ohio.....	11,500	10	552	1	.....do.....
ntinuing the improvement of the harbor shtabula, Ohio.....	13,500	10	552	1	.....do.....
ntinuing the improvement of the harbor airport, (Grand river,) Ohio.....	13,000	10	552	1	.....do.....
ntinuing the improvement of the harbor leveland, Ohio.....	10,000	10	553	1	.....do.....
ntinuing the improvement of the harbor ie mouth of Black river, Ohio.....	10,000	9	839	1	July 7, 1838
ntinuing the improvement of the harbor uron, Ohio.....	13,500	10	552	1	June 11, 1844
ntinuing the improvement of the harbor andusky City, Ohio.....	28,500	10	553	1	.....do.....
ntinuing the improvement of the harbor nroe) at the mouth of the river Raisin, n.....	10,000	Pam.	58	1	Aug. 30, 1852
rrent expenses of the steam-dredge on e Erie.....	7,500	.....	.....	....	.....
Lake St. Clair.					
ntinuing the improvement of St. Clair , Mich.....	45,000	Pam.	58	1	.....do.....
ntinuing the improvement of the harbor ie mouth of Clinton river, Mich.....	5,000	Pam.	58	1	.....do.....
Lake Michigan.					
ntinuing the improvement of the harbor nd Haven) at the mouth of Grand river, n.....	20,000	Pam.	58	1	.....do.....
ntinuing the improvement of the harbor lack Lake, Mich.....	20,500	Pam.	58	1	.....do.....
ntinuing the improvement of the harbor t. Joseph, Mich.....	18,000	Pam.	58	1	.....do.....

ESTIMATE—Continued.

Object of expenditure.	Amount required.	Reference to acts making appropriations.			
		Vol.	Page.	Sec.	Date.
For continuing the improvement of the harbor of New Buffalo, Mich	$16,000	Pam.	58	1	Aug. 30, 1852
For continuing the improvement of the harbor of Michigan City, Ind	19,000	Pam.	58	1	....do....
For continuing the improvement of the harbor of Chicago, Ill	24,000	Pam.	60	1	....do....
For continuing the improvement of the harbor of Waukegan, Ill	16,000	Pam.	60	1	....do....
For continuing the improvement of the harbor of Kenosha, (formerly Southport,) Wis	15,500	Pam.	58	1	....do....
For continuing the improvement of the harbor of Racine, Wis	11,000	Pam.	58	1	....do....
For continuing the improvement of the harbor of Milwaukie, Wis	17,500	Pam.	58	1	....do....
For continuing the improvement of the harbor of Sheboygan, Wis	11,000	Pam.	58	1	....do....
For continuing the improvement of the harbor of Manitowoc, Wis	12,500	Pam.	58	1	....do....
For current expenses of the steam-dredge on Lake Michigan	7,500	.....	.....	....	.....
For repairs and preservation of public property and contingencies of lake harbors, and for commutation of transportation of baggage, and of quarters and fuel of officers in cases no longer provided for by the Quartermaster's department, and for allowances to meet extra expenses, under the special direction of the Secretary of War	20,000	Pam.	60	1	....do....
Amount for harbors	601,500				
MISCELLANEOUS.					
For printing and distributing charts of lake surveys	1,500	.....	.....	....	.....
For repair of instruments of the corps of topographical engineers	5,000	.....	.....	....	.....
Amount for miscellaneous	6,000				

RECAPITULATION.

For surveys	$75,000 00
For roads	50,000 00
For rivers	456,000 00
For harbors	601,500 00
For miscellaneous	6,500 00
Total amount	1,189,000 00

JAMES KEARNEY,
Lieut. Col. Top. Engs., President of Board.

Office Board of Engineers of Lake Harbors and Western Rivers,
Washington, October 25, 1853.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, December 16, 1852.

SIR: An estimate of funds required for the prosecution of certain works under the charge of the Bureau of Topographical Engineers during the fiscal year ending the 30th June, 1854, prepared by this board in obedience to your orders, and in compliance with the instructions of the Secretary of War of the 6th instant, is transmitted herewith. This estimate is based upon the one prepared by the bureau, and differs from it in some particulars, a memorandum of the reasons for which has been preserved, and will be communicated if desired.

Very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Colonel Topographical Engineers, President.

Col. J. J. ABERT,
Colonel Corps. Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, December 17, 1852.

SIR: The board having under consideration the third subject referred by the instructions of the bureau of the 6th instant, "to investigate the matter of the alternative in the law in reference to the work at Michigan City, Indiana"—that alternative being "the continuing the improvement of that harbor or the laying down of a floating breakwater and safety anchorage"—(act 30th August last) report, that in their opinion a floating breakwater ought not to be recommended. The board defer an expression of opinion on the best mode of continuing the improvement of the harbor until they take into consideration the fourth subject of reference made by you in the same communication, namely, "to investigate all the plans for lake harbors, report upon the same, and furnish estimates for the completion of the same, and for the wants of each fiscal year."

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Colonel Topographical Engineers, President.

Col. J. J. ABERT,
Bureau of Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, December 17, 1852.

SIR: The second subject referred to the consideration of this board, by the instructions of the bureau of the 6th instant, is in the following words, to wit: "That the board investigate the matter of the position of the Milwaukie piers, and report thereon." On this reference the board have the honor *to report, that* without endorsing all the opinions

contained in the various papers submitted with the inquiry—namely, the letter of the bureau to Captain T. J. Cram, dated March 13, 1843; that of T. J. Cram to the bureau, in reply, dated April 3, 1843; the report of the special board on the subject, of which Lieutenant Colonel Kearney was president, to the bureau, dated May 28, 1843; and lastly, the letter of the bureau to the Secretary of War, dated September 7, 1852—they are of the opinion that the existing outlet of the Milwaukie ought to be adhered to, and that all measures, whether in the form of works or otherwise, for the improvement of the entrance of that river, ought to be applied to that point

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Colonel Topographical Engineers, President.

Col. J. J. ABERT,
Bureau of Topographical Engineers.

P. S. The papers in reference to the Milwaukie piers are herewith returned. J. K.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, December 18, 1852.

SIR: The annual estimates for the year ending the 30th of June, 1854, called for by the instructions of the bureau of the 6th instant, under the first head, and transmitted on the 10th, did not provide means for continuing the improvement of the harbors of Michigan City, Indiana, and Milwaukie, Wisconsin, the questions in regard to those harbors being reserved until the board should report upon the references to them provided for by the second and third heads of the same instructions. The board having performed that duty, are now prepared to report the sums to fill the blanks in question, namely:

For continuing the improvement of the harbor of Milwaukie, Lake Michigan, Wisconsin $10,000
For continuing the improvement of the harbor of Michigan City, Lake Michigan, Indiana 5,000

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Colonel Topographical Engineers, President.

Col. J. J. ABERT,
Bureau of Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
February 14, 1853.

SIR: The board has had under consideration the letter, plans, and estimates of the agent at Dunkirk of the 6th of February, the same *having been referred* to it by the bureau.

The board having carefully examined all the suggestions of the agent respecting the works at that place, their present condition, and the measures that ought to be adopted respecting them at this time, have instructed me very respectfully to inform you that the board is of opinion that neither the middle pier nor the west pier be reconstructed at present, except so far as may be necessary to preserve the head of the latter, on which the beacon-light stands, and to rebuild the eastern head of the middle or detached pier, provided the agent shall be of opinion that this is the best mode of making the channel end of that work. The letter and estimates of the agent are herewith returned to the bureau.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Colonel Topographical Engineers, President.

Col. J. J. ABERT,
Bureau of Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, February 23, 1853.

The subject of improving the rapids of the upper Mississippi having been referred to the board of engineers of lake harbors and western rivers by the Bureau of Topographical Engineers, and committed to me for an expression of my views in relation thereto, I take leave to submit the following brief report on that subject:

In 1817 I ascended the upper Mississippi, in a large skiff, to the falls of St. Anthony, &c., and returned thence in the same craft, passing the Des Moines and Rock River rapids on both trips, without any considerable difficulty in either direction. The skiff was propelled, in the ascent of both rapids, occasionally by a small sail and a gentle wind, and occasionally by oars. In 1841 I again ascended the Rock River rapids in a skiff, half their length, and returned without any considerable difficulty occasioned by the rapidity of the current.

Both rapids above mentioned were surveyed with care, under the direction of Lieutenant R. E. Lee, now Brevet Colonel Lee, of the corps of engineers, in 1837, and a method of sluice navigation was recommended by him as the best mode of improving the navigation of these rapids.

Colonel Lee's report on the survey and improvement of both these rapids was dated at St. Louis on the 6th of December, 1837, and accompanied by two charts, with sections: "No. 1, entitled map of the Des Moines rapids of the Mississippi," and "No. 2, map of the Rock Island rapids of the Mississippi."

The sections mentioned were no doubt exhibited on manuscript sheets, but have been omitted in the printed maps. The maps, however, indicate the positions of the reefs, rocky bars, and channels, and the soundings thereat in low water, with great clearness and apparent precision.

Agreeably to the report, the extent of the Des Moines rapids, from

head to foot, is 11 miles, and the aggregate descent of the river in this distance is a little more than 24 feet; giving for the average descent per mile about $2\frac{1}{5}$ feet.

By the same report, the length from head to foot of the Rock Island rapids is 14 miles; the aggregate fall is 25.74 foot; giving for the average descent per mile, 1.838 foot, or about $1\frac{5}{6}$ foot.

The speed of current produced by the declivity above mentioned, in low-water stages of the river, varies from 2 to $3\frac{1}{2}$ miles per hour, and probably does not exceed $3\frac{1}{2}$ miles per hour on any considerable portion of the rapids—a speed that can readily be overcome by ascending steamers of the lowest speed.

The method of improvement recommended by Colonel Lee, in both cases, contemplates a sluice navigation, to be effected by pursuing the most favorable and direct natural channels, which are of frequent occurrence in all parts of the river bed, but are nowhere continuous through the whole extent of either of the rapids. These channels, besides being totally intercepted in some places by rocky reefs, are in many places tortuous and narrow, and in several instances obstructed by protuberant ledges rising nearly to the surface of low water in the midst of the channels.

Colonel Lee has proposed to open a continuous channel 200 feet wide, from the head to the foot of each of the rapids, by forming new channels in continuation of the most favorable natural channels; widening the latter in cases when they have not the width above mentioned, namely, 200 feet; cutting away projecting points when the natural channel is too crooked, and removing prominent ledges from the channels through which the improved channel is to pass; the whole to be effected by blasting, at greater or less depths, below the surface of ordinary low water, and depositing the blasted fragments in deep pools which occur frequently in the river bed, and within the channels to be improved.

The width of the improved channel is to be at least 200 feet, and its low-water depth 5 feet. Its position on the map, especially at the points where the improvements are to be made, is indicated by parallel dotted lines on each of the maps.

Agreeably to the best information that can be had, the volume of the Mississippi, at both these rapids, is amply sufficient, even in the lowest stage of the river, to supply a channel or sluice, of the width and depth above mentioned, even to overflowing.

Doubts have been entertained as to the practicability of establishing permanent channel-marks along the sluices, as guides to safe navigation. Such beacons must unavoidably be exposed to the ravages of ice and drift, on the breaking up of the river at the time of the spring freshets, and would be likely to be carried away on such occasions, however carefully or securely moored.

In my opinion, the best method of designating the channel would consist in the application of floating buoys, of suitable construction, and at suitable intervals and positions, on both sides of the channel. These buoys should be anchored to the bottom of the channel by chains, the length of which respectively should be at least 12 feet, or long enough, *in every case, to* allow the buoy to present itself at the surface of the

water till the river shall have attained an elevation sufficient to admit the passage of boats over all parts of its bed.

The anchors to which the buoys are attached should be held to the bottom of the channel by their gravity only; so that, in the event of the buoy being carried away by drift of any kind, the anchor may be dragged along with it, by means of which most if not all of the abducted buoys may be again recovered and returned to their proper positions.

The method of improving the navigation of the rapids above considered will have no tendency to interrupt or obstruct the natural navigation, but, on the contrary, will contribute greatly to its improvement; in fine, it should be regarded as an improvement of the natural navigation, rather than a system of artificial navigation.

Two other modes of improvement have been informally proposed, by persons interested in the improvement of the navigation at the rapids—one of which contemplates the construction of a lateral canal on one or the other side of the river, with a lift-lock at its lower extremity; and the other a slackwater navigation, to be effected by the erection of a dam across the entire river at the foot of the Des Moines rapids, and a single lift-lock in connexion with the dam for these rapids; and a similar improvement at the Rock Island rapids, with tow-dams and a lock on each, viz: a lock and dam at the foot of these rapids, and another lock and dam about midway of the same.

The method by lateral canal is objectionable on account of its great cost of construction, the expense of its management, the delays in passing through, and on various other accounts. The method by lock and dam is also objectionable on the same account, and is totally inadmissible by reason of the entire annihilation of the natural navigation of the rapids occasioned thereby; while the method by sluice navigation is completely exempt from any and all of the objections urged as above against the other two modes.

The cost of improving the Des Moines rapids by the adoption of the method of sluice navigation, as estimated by Colonel Lee, is as follows, viz:

Blasting and removing 94,811 cubic yards of rock, at $2 ... $198,622

I am inclined to think that the estimated quantity just stated is somewhat short of the amount required for a sluice having a clear width of 200 feet, and would accordingly assume for the amount, in round numbers—excavation required 100,000 cubic yards, which would give for the probable cost of the work of blasting, &c., at $2 per cubic yard..... $200,000

To which should be added, on account of hindrances and unavoidable interruptions, including buoys, chains, anchors, &c., at least 25 per cent., viz..... 50,000

250,000

The cost of improving the Rock Island rapids, by adopting a similar method of improvement, has been estimated by Colonel Lee, and is as follows, viz:

Blasting and removing 77,329 cubic yards of rock, at $2 ... $154,658

For reasons similar to those stated in reference to the Des Moines rapids, and in consideration of the greater length of the Rock Island rapids, I would suggest that the cost of improvements in both cases be regarded as equal, and would accordingly substitute the following estimate, viz:

100,000 cubic yards of rock, to be blasted and removed in the formation of a continuous channel 200 feet wide, and five feet in depth, below the surface of low water, at $2.....	$200,000
Contingencies, &c., including buoys, chains, and anchors, at 25 per cent	50,000
	250,000

The foregoing estimates are presented with the belief that they will prove adequate to the exigencies of the works herein contemplated; while, at the same time, I am aware that they are far too general and vague in their character and extent to be relied on, without minute surveys, especially in so far as relates to longitudinal profiles and transverse sections, of a character to exhibit the true features, as indicated on the plan, with due precision, on the maps referred to.

Respectfully submitted.

S. H. LONG,
Member of the Board.

OFFICE OF BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, February 24, 1853.

SIR: I am directed by the board to call the attention of the bureau to the following statement:

The act making appropriations for the improvement of certain harbors and rivers, approved August 30, 1852, provides "for the improvement of the Rock River rapids and the Des Moines rapids, in the Mississippi river, at the lower chain and the English chain, one hundred thousand dollars;" and that among the items in the estimate for harbor and river improvement for the fiscal year ending the 30th of June, 1854, which emanated from this board, there is an item for continuing the improvement in nearly the same words, to wit: "of the Rock River rapids and of the Des Moines rapids, at the lower chain and English chain, in the Mississippi river." Now, as the Des Moines rapids consist of four chains, as follows, taken in the order of ascending—the lower chain, English chain, La Mallees chain, and upper chain—it will be seen that the appropriation in either case will be confined to the Rock River rapids, and only to so much of the Des Moines rapids as is included by the lower chain and English chain. It may be remarked here that the first two of the above-mentioned chains are barely three miles in length, whereas the last two are about seven miles. This restriction the board have supposed was neither the desire of the *bureau nor of* the War Department, and hence invite attention to the *subject, with* a view to such action as the bureau may deem advisable

in order to make the appropriation available on both rapids. Thus far the appropriation recommended for the coming fiscal year may be effected by the simple striking out the words "at the lower chain and English chain," from the item in the estimate now before Congress. In regard to the appropriation already made, a declaratory clause appended to the present bill will be necessary.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, March, 1, 1853.

SIR: I am instructed by the board to transmit to you the enclosed copy of report of Lieutenant Colonel Long, upon the subject of the improvement of the Rock River rapids and the Des Moines rapids, in the Mississippi river. The board having duly considered this matter, have decided that the surveys in their possession are not sufficient for the purposes of the board, and that further surveys should be instituted in order to obtain transverse sections of the river-bed, width and depth of the natural channels, &c., as often, at least, as twice in every mile through the entire length of both rapids; and also to determine the outline or profile of the bottom, and low-water surface of the river, along the channels proposed to be opened from the head to the foot of each rapid; and in such other positions as may be deemed needful in order to determine the best route for their improvement. These surveys to include observations for the velocities of the currents, especially in the natural channel, and for the bottom as well as the superficial velocities taken when remarkable changes of declivity of the surface or bottom of the principal channels occur. Similar experiments for velocity to be made for the whole width of the river, at the position of some of the profiles already indicated, namely, at points at which the volume of water, carried forward by the whole stream, may be most accurately ascertained.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, April 27, 1853.

SIR: I am instructed by the board to report that it has had under consideration the several subjects specially referred to it by the bureau,

and that it has made the progress in the investigation of each of them which is shown in the synopsis of proceedings and reports which accompany this communication. At the points at which the board has arrived it finds itself under the clear conviction that it will be impossible to report finally and fully on these subjects, in a manner satisfactory to itself or to the bureau, until the members shall have visited the several localities and works to which their attention has been called. The board accordingly proposes doing so at as early a day as practicable, or as soon as the office work, on which it is engaged, can be brought to a state to justify its departure.

The examinations or inspections now proposed are not only necessary, in the opinion of the board, but they are also required by the regulation of September 10, 1852; thus—

"The board will, as often as they may deem necessary, detail from their number one or more members for the inspection of works under execution."

Whenever the business of the board shall not require them to be in session, the members shall be employed in the inspections above provided for, &c.

But the board is without the requisite means of executing this duty, and it has therefore to request instructions as to the appropriations to which the expenses of such inspections should be charged, or upon which the board should make its requisitions for funds. The board have also had under consideration, for some time past, a system of instructions to guide officers and others in making local surveys at and near the lake harbors and western rivers for purposes of hydraulic engineering, and in relation to the inspection of works under construction or repair, or concerning which questions may arise respecting their present or ultimate stability, as well as their efficiency.

A considerable amount of materials have been collected for this purpose, and progress has been made in arranging them. With the permission of the bureau, they will be reported as soon as they can be put in proper form.

In conclusion, it may be proper to remark, that the members of the board have been engaged, since its organization, not only on the duties appertaining to the board, under the "regulations in relation to river and harbor improvement," but on others with which the members had been previously connected, or which were afterwards referred to them severally.

I have the honor to be, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
April 27, 1853.

EXTRACT FROM SYNOPSIS OF PROCEEDINGS OF THE BOARD.

Erie harbor.

In relation to the harbor of Erie, the board has very respectfully to report that the information in its possession—the most recent being that which it derives from the annual report of 1845—is not such as to enable it to form definite plans for its improvement by means of additional works, or by the extension of those already existing. Moreover, the board is not informed respecting the actual condition of the works which have been constructed, or the effects which time and the action of the sea may have had upon them. It can only recommend, therefore, in general terms, that measures be at once taken for the repair of the dilapidated portions of the piers and other structures at this harbor; and, it may be added, that the like recommendation will apply to all the other harbors where the timber-work has been extensively injured by decay or other causes, except in the case of such harbors as have been specially reported upon by the board.

The "board of engineers for lake harbors and western rivers" was constituted by an order from the War Department, September 16, 1852, appointing Lieut. Col. James Kearney, Brevet Lieut. Col. S. H. Long, and Major Hartman Bache, the members, in conformity with the "regulations in relation to river and harbor improvements," issued by the department September 10, 1852, and was convened by an order from the Bureau of Topographical Engineers, December 10, 1852, by which Brevet Col. Turnbull was placed temporarily on the board during the absence of Brevet Lieut. Col. S. H. Long,

Immediately on organizing, the board entered upon the duties required by the instructions of the War Department, December 6, 1852, and on the 16th December transmitted to the bureau, in accordance therewith, the estimates of funds required for the prosecution of certain works under charge of the topographical engineers, during the fiscal year ending June 30, 1854.

On the 17th December the board submitted a report upon the second subject of investigation committed to them, viz: "the matter of the position of the Milwaukie piers;" also, upon the third subject, viz: "the alternative in the law in reference to the works at Michigan City;" and on the 18th submitted estimates for continuing the improvement at these two harbors.

Having now completed the business required by the special instructions of the War Department, the attention of the board was called, by a communication from the bureau, to the question of the improvement of the following harbors: 1st, Oswego; 2d, Erie; 3d, Dunkirk; 4th, Cleveland; 5th, Sandusky City; and 6th, Waukegan.

This question, in the case of each harbor, was clearly examined and studied, and while projecting and designing works for their improvement, with a view generally of increasing their capacity, and to the protection of *the present works, various* discussions arose upon the effects

of winds and currents, the travelling and deposition of sand, silt, and shingle; showing clearly that before finally locating these breakwaters and piers, all the surrounding circumstances and conditions of winds, currents, shoals, and adjacent topography, should be carefully and accurately delineated.

During the above examinations and discussions Lieut. Col. S. H. Long appeared and took his seat, January 17th, Col. Turnbull having withdrawn, being thereby relieved, in accordance with instructions of the War Department, December 10, 1852.

On the 14th February a report was made, and submitted to the bureau, on a matter referred to the board contained in a communication from the agent at Dunkirk harbor, setting forth the condition of works at that harbor, and submitting an estimate for repairing certain portions requiring immediate attention. In accordance with instructions from the bureau, a report was submitted, March 1st, on the improvement of the Rock River and Des Moines rapids, in the Mississippi river; the attention of the bureau having been previously called to the fact, that the wording of this item in the appropriation act confines the expenditures of the appropriation, so far as relates to the Des Moines rapids, to "the lower chain and English chain." Resuming the consideration of the improvement of the several harbors referred to the board December 27, 1852, the following preliminary reports were adopted:

Oswego, Lake Ontario, New York.

The design of the new harbor at Oswego calls for two works founded about 700 feet in advance of the line of the present piers, in a mean depth of thirty feet, and on a line parallel to a course drawn, say N. 56° E. (true) from Four-mile point towards the east, on the one hand, to Eight-mile point towards the west, on the other; these points forming the arc of exposure, against which it is necessary to afford protection from the swells of the lake. The principal work is limited towards the west by a northwest line (true) drawn from the shore-angle of the present west pier, and towards the east by a line on the same course, drawn from the head of the present east pier, and is about 1,520 feet in length. The smaller work by a north by west line (true) drawn from the head of the same pier, and by a north line (true) drawn fro n the angle of that pier, and is about 810 feet in length. These conditions give three entrances to this harbor; one each, between the shore-ends of the two works, of 500 feet, measured to the 12-feet curve; and one entrance between the two works, of about 400 feet.

The works, as now proposed, will not, probably, conform in all respects to the final design. Their precise position and extent can only be determined by proper surveys, and by the experience acquired during the course of the operations.

The object has been to plan them in such a manner, both in regard to position and length, that they shall, except under some extraordinary and unforeseen contingencies, form a part of the ultimate project. The question, for instance, as to the exact course of the line of the two works, is dependent on the result of the proposed survey; and as to the number, and position, and width of the entrances, on the experience *obtained in the* course of the construction. Should it be found that the

entrance between the two works is not necessary to a free discharge of the river, particularly in freshets, through the opening between the present pier, then the entrance provided between the new works should be closed; but if, on the other hand, this entrance be found necessary, then the works should be prolonged, westerly and easterly, towards the shore, to afford that full protection which, as long as the question of a central entrance was undecided, it was necessary to restrict, in order to provide ingress and egress to and from the harbor.

The two works, as described, have an aggregate length of 2,330 feet. By closing the central gap, they would form a single work of 2,730 feet in length. If, however, this gap is kept open, the principal work should be prolonged towards the west and the shore, until cut by a W. N. W. line (true) from the shore-angle of the present west pier—thus calling for an increased length of about 350 feet; and the shorter pier towards the east and shore, until cut by a N. half E. line (true) from the shore-end of the present east pier, and calling for an additional length of about 350 feet; making the aggregate length of the two works 3,030 feet.

The works thus designed, under the first condition, having the aggregate length of 2,330 feet, afford protection from the northwest winds for an area, without the present works, of about 34.6 acres; and including the area within the present works, 12.8 acres, gives as the aggregate capacity of the harbor, without the twelve-feet curve, 47.4 acres. Under the condition that the gap, or central entrance, is closed, the area protected becomes 53.2 acres; but if it be left open, and the works extended towards the shore, as before stated, the area becomes 49.7 acres.

The works, under all the above contingencies, possess not only the great advantage of vastly increasing the capacity of the harbor, but also protect the present works now requiring repairs, which will ever be a source of great expense as long as they are thus exposed.

Dunkirk harbor.

Is in a bay indenting the shore-line of Lake Erie to the depth of three-quarters of a mile, (nearly,) and having a breadth at its mouth of one and seven-eighths mile from cape to cape. The landings at the town are exposed to all winds and swells coming from points in the arc extending from W. N. W. to N. E., nearly round by the north, and are sheltered from all winds coming from the land side between these two points.

The design for the improvement of this harbor is made up of three breakwater structures: the principal and central one being on a line drawn from Light-house point to Battery point; the one to the west on a line parallel to, but inward of, the main work; the one to the east on a line bearing from Battery point S. 77° W., and outward of this work. Commencing on the west, this work is parallel, as before described, but drawn through the point of intersection of a line bearing N. W. from the present east pier-head, and a line bearing N. 17° 30′ W. from the present west pier-head, limiting the structure towards the east, and towards *the shore it extends* to a point 150 feet from a line

joining the west pier-head and Light-house point; making the length of this portion of the work about 1,000 feet.

The principal or central work is limited, towards the west, by the condition of the opening between it and the portion of the work just described; measured upon its prolongation, shall be 500 feet, and extends eastward about 2,890 feet. The easterly work is on a line bearing from Battery point S. 77° W., and is limited at the shore-end by a line drawn from the middle of the town landings tangent to the nine-feet curve, (bearing about N. 17° E.) It has a length of about 765 feet; being limited towards the west by the condition that the opening between it and the central work shall be 500 feet.

By the design it will be seen that protection is afforded, not only to vessels lying in the inner harbor, but also to those entering or leaving this harbor by either of the two narrow channels through which they must pass; and, beside, an outer harbor is made which will answer all the purposes of refuge, when provided with suitable moorings; for, it may be remarked, there is no holding-ground between the old and the projected new works.

In addition to the two entrances of 500 feet noticed above, there is one of about 250 feet between the shore-end of east pier and the nine-feet curve. The aggregate length of these works is 4,655 feet; but should it be found that the shoal lying between this trace and the inner harbor answers in itself as a breakwater, then this entire length may be reduced by leaving a gap in the line opposite that portion of the inner harbor already covered by the shoal, the extent of which is to be determined, during the progress of construction, by commencing the work at both ends and working towards the centre until the desired protection is given.

But, on the other hand, if the westerly work should be found not to fill the condition of protecting the present west pier-head from the winds and swells, coming from points in the arc of exposure between Light-house point and the end of the work, it should be continued until the condition is fulfilled; thus adding at the maximum 300 feet to the entire aggregate length of these works, being limited by a line drawn from the present west pier-head to Light-house point.

This line of works is founded in depths of about 18 feet, with the exception of the contingent addition of 300 feet at the shore-end of the west pier, and protects (when completed) an area of 97 acres from the northwest winds, and having a depth of twelve feet and upwards. It is recommended that a final decision of the whole subject of the harbor of Dunkirk be deferred till a personal inspection and examination shall have been had by the board.

Sandusky harbor.

The information before the board, in relation to the condition and improvement of this harbor, is of a character not sufficiently definite to enable them to decide upon the method of improvement best adapted to the exigencies of commerce at this point. The existing navigable *channel* communicating with the harbor is represented as being *exceedingly tortuous*, affording a channel depth of about nine feet, and

in many places very narrow. Attempts have been made to straighten and deepen it by dredging, but with what success or to what extent this operation has been carried on, the board have not yet been advised. In connexion with the improvement of the harbor, it has been proposed to close a breach that has been formed at the westerly end of the neck joining Peninsula point to the main land, where a shoal channel about 1,300 feet wide has been formed; also four other breaches across the neck, of very inferior magnitude, by depositing brushwood, stone, &c., in a manner to form rude dams closing the breaches. This work may no doubt be prosecuted effectually and to advantage without interfering injuriously with other works required for the improvement of the harbor, and may be undertaken forthwith. In this opinion the board is firmly convinced, from information recently furnished by the local agent at that place.

Prior to any final decision as to the manner, position and extent of works required for the improvement of this harbor and the channel leading to it, the board deem it expedient that a personal examination be made by them with a view to a full understanding of the whole subject.

Cleveland harbor.

With reference to the harbor of Cleveland, the board is of opinion that information is wanted to enable it to offer plans for its further improvement or enlargement, and that until such information is procured the expenditures upon it should be limited to the repairs of such parts of the wood-work as require them, to the extension of the west pier as contemplated by the annual report of the bureau of 1845, and to preparations for the masonry of the west pier.

Breakwater at Waukegan.

The board are not apprized of the object of this work, and are at a loss to know whether it is designed for the purpose of forming a commercial harbor or a harbor of protection for shipping in stress of weather. Presuming that the latter is the object, they recommend that a breakwater 1,200 feet long, parallel to the western shore, erected in the lake where the water has a minimum depth of fourteen feet, be adopted as the line of the work. This line will be at the distance of about 500 feet from the shore. The breakwater should be formed of crib-work, loaded with stone in the usual manner, the cribs of which should be about 20 by 30 feet at their base, and rise six feet above the surface of the lake.

On the supposition that this work is designed for the protection of commercial harbors, the position of the breakwater should be as above stated, and in addition thereto the harbor must be enlarged and deepened by dredging to the depth of 14 feet; and a bridge-pier should be extended from the shore some two or three hundred feet, for the purpose of connecting the shore with the harbor.

A decision as to the proper extent, position, form and character of the breakwater, or of any other works connected therewith, should be

deferred till a careful examination of the site, and its surrounding circumstances, shall have been made by the board.

Erie harbor.

In relation to the harbor of Erie, the board has very respectfully to report, that the information in its possession, the most recent being that which it derives from the annual report of 1845, is not such as to enable it to form definite plans for its improvement by means of additional works, or by the extension of those existing. Moreover, the board is not informed respecting the actual condition of the works which have been constructed, or the effect that time and the action of the sea may have had upon them. It can only recommend, therefore, in general terms, that measures be at once taken for the repair of the dilapidated portions of the piers and structures at this harbor; and, it may be added, that the like recommendation will apply to all the other harbors where the timber-work has been extensively injured by decay or other causes, except in the case of such harbors as have been specially reported upon by the board.

The board having under consideration the principles of construction to be employed in building the piers, jettees, and breakwaters on the lakes, are of opinion:

1st. That these works ought to be founded on cribs of timber filled in with stones.

2d. That the ordinary length of each crib should be 30 to 50 feet.

3d. That the breadth of the piers, &c., ought not to be less than twenty feet, even in the shoalest water.

4th. That their average width ought at least to equal their total height from the foundation to the platform.

5th. That the platform or deck of the piers, &c., ought to rise 5 feet above high-water level of the lake.

6th. That the side exposed to the waves ought to be vertical from top to bottom, and as much as possible free from angular projections or breaks.

7th. That the sheltered side ought to be vertical from the platform to five or six feet below the low-water level, and thence downward it ought to have a slope or batter in grades of one-third to the natural foundation.

8th. That the timbers used in the work should be all squared or sawed.

9th. That the exposed face of the work ought to be covered with plank well fitted and bolted to the timbers, and to extend if possible from the top to the natural foundation.

10th. That whenever it is dangerously exposed to floating ice, it should be defended by wrought-iron bars or straps well bolted to the timbers.

11th. That the bottoms of the cribs ought to be of grillage, the openings in which should be barely sufficient to allow the stone-filling of the cribs to settle to the ground.

12th. That the rip-rapping, if any, around the bottom of the cribs,

ought not to rise so high as to be exposed sensibly to the action of the waves.

13th. That the piles, which are used sometimes in the inside of the cribs, have not the effect to keep them permanently in place or plumb.

14th. That the cribs beneath the water surface should be of the same width as the piers or breakwaters, and may be of different lengths. Above water the crib-work should be constructed so as to preserve a break-joint connexion throughout the whole length of the work.

15th. That due time having been allowed for the ultimate settlement of the structure, the upper part of it should be replaced by masonry, namely, from a point so low that the timber of the foundation may not be liable to come in contact with the atmosphere.

The board reserves for a future report the question of the dimensions of the timbers, the method of framing, or the carpentry of the cribs, the filling in with stone, and the setting of the cribs into place. To enable the board to arrive at satisfactory opinions upon points now referred to, and enter into the details which ought to characterize such a report, it will be necessary for the members to examine for themselves the works most worthy of notice, or those that are thought to be the most successful examples of crib-work on the lakes, as well as those that are defective.

The board would thus be enabled to judge more satisfactorily as to the causes (arising either from inherent defects or accidents) that have led to their failure; and, on the other hand, the causes that may have contributed to the efficiency of those that have succeeded.

JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

OFFICE OF BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, May 4, 1853.

SIR: I am instructed by the board to make the following report on the communication of J. A. Potter, esq., agent, dated the 28th ultimo, covering reports of inspection of the harbors of Conneaut, Ashtabula, and Grand River, on Lake Erie, presented for the action of the board by the bureau on the 2d instant:

Harbor at Conneaut.

The piers at this harbor are stated by the agent as in very good repair. The portions out of repair, and which he proposes to restore, are—

1st. About three hundred feet of the west pier against the beach, to prevent the sand of the lake shore from driving into the river between the piers; and,

2d. About an equal length, *judging* from the sketch which accompa-

nies the report, of the inner part of the east pier, to prevent the river breaking through the beach into the lake east of that pier.

To both these propositions the board very respectfully gives its approval, and recommends that they be carried into effect.

A third proposition, namely, to extend the west pier into the lake, is also made by the agent. It appears this extension was attempted some years since, but failed, and all that remains of the work is the bottom of two isolated cribs near the end of the pier. These two piers, with seven or eight feet water respectively over them, have a length, as exhibited by the accompanying sketch, of about sixty feet. To make the extension now, the agent recommends, that as it will be difficult to secure the new work properly over the two ruined piers, to incline the work westward a few degrees, (and which he thinks may be done "with perfect propriety,") and thus avoid them.

The board is not prepared to give its sanction to this proposition, for the reason that the direction given to the ruined piers, as shown by the same sketch, is already northwest, (the line of the present outer part of the pier for ninety feet being thirty degrees west of north,) an inclination towards the west sufficient, in its opinion, to counteract the tendency of the shore sand to accumulate against the works under the influence of the prevailing winds—the sole object in giving the west pier an inclination in that direction. The board would, therefore, recommend that, if it be found impracticable to secure the new piers required in the extension to the ruined piers, an effort be made to remove them entirely, or at least to such a depth as will admit the settling of the new piers on a proper basis.

Harbor of Ashtabula.

The east pier from the outer angle, or about sixty feet in length, is represented by the agent as very much out of repair above the water surface, many of the timbers being broken, and the planking torn up and stone washed out; and thence, for a distance of two hundred and fifty feet, entirely gone to a depth of from five to seven feet below the water; the remaining timbers being broken and twisted out of place, so that every gale from the northeast throws out the stone and timber, and widens the breach. The first portion described the agent proposes to repair, by rebuilding it from the surface of the water; the second, by securing the timber of the new work upon the old by means of six-feet iron bolts, at distances of every six feet in length. This mode, he says, was adopted in a similar case at Grand river, in 1837, with entire success. Both these suggestions the board approves, and recommends that they be carried into effect.

The west pier is described as in good repair, with the exception of the line beyond the outer angle, seventy feet of the extremity of which has been carried away to a depth of from eight to ten feet below the surface of the water, the remainder being in a bad state, and requiring extensive repairs. The agent proposes to repair the first by means of two cribs, of sufficient depth to bring the work up to the surface of the water; and thence, from this level, carry up the entire work for the length described as dilapidated, by firmly connecting the two by large timbers from forty-five to sixty feet in length, carefully breaking

butts, and securely bolting with iron as before. This course of proceedings the board approves, and recommends that they be carried out. It would likewise suggest that the breach of two hundred and fifty feet in the same pier, through which the sand from the shore is washed into the channel between the piers, to which the agent calls attention at the close of his report, be also at the same time closed, provided the means available should warrant the expenditure.

The board, in conclusion, desires to call attention to the note on the sketch of this harbor, stating that the sands continue to accumulate against the lake side of the west pier; in view of which, it is of opinion that the further extension of that pier beyond the portion now about to be repaired should be deferred until the question of its proper direction be finally settled. The present direction is north-northwest; whereas, in the harbors generally along the same line of lake shore, it has been deemed necessary to incline them further to the west, and thus cause the deflected waves, raised by the prevailing winds, to counteract the accumulation of the sand against the pier which travels along the shore under the influence of those winds.

Harbor at Grand River.

The agent reports the east pier, rebuilt in 1844–'45, as in good order, and requiring no repairs, save the driving of a few piles for protection against damage by steamers, which, in the opinion of the board, should be done. On the other hand, the west pier is gone, for a length of twelve hundred feet, from one to three feet below the surface of the water. The agent proposes to rebuild this pier; and as it appears to be properly placed, and its destruction due to decay of the timber—having been built in 1832—the board approves of this course, and the adoption, as he further suggests, of the mode of construction used in the rebuilding of the east pier, which, the agent reports, has proved so eminently successful.

The direction of the further prolongation of the west pier would seem, from the continued accretion of sand on the lake side of it, to be an open question in regard to this harbor also—the course northwest, (nearly,) given to the outer end of this pier, for a length of three hundred feet, not having produced the beneficial effects exhibited at other points along the lake shore, where it would seem the same causes are present. The board, therefore, recommends that no further extension of this pier be sanctioned until the points in question be settled by a personal examination of the site. In conclusion, the board would remark, that it has confined itself strictly to the engineering questions suggested in the reports of the agent of the above harbors, and omitting any notice of the matter of the construction of a new scow-crane, of the materials and tools on hand, &c., &c., as more properly belonging to the administrative duties of the bureau. The letter of the agent, with the reports of the harbors enclosed, are herewith returned to the bureau.

I have the honor to be, sir, your obedient servant,

JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

nies the report, of the inner part of the east pier, to prevent the river breaking through the beach into the lake east of that pier.

To both these propositions the board very respectfully gives its approval, and recommends that they be carried into effect.

A third proposition, namely, to extend the west pier into the lake, is also made by the agent. It appears this extension was attempted some years since, but failed, and all that remains of the work is the bottom of two isolated cribs near the end of the pier. These two piers, with seven or eight feet water respectively over them, have a length, as exhibited by the accompanying sketch, of about sixty feet. To make the extension now, the agent recommends, that as it will be difficult to secure the new work properly over the two ruined piers, to incline the work westward a few degrees, (and which he thinks may be done "with perfect propriety,") and thus avoid them.

The board is not prepared to give its sanction to this proposition, for the reason that the direction given to the ruined piers, as shown by the same sketch, is already northwest, (the line of the present outer part of the pier for ninety feet being thirty degrees west of north,) an inclination towards the west sufficient, in its opinion, to counteract the tendency of the shore sand to accumulate against the works under the influence of the prevailing winds—the sole object in giving the west pier an inclination in that direction. The board would, therefore, recommend that, if it be found impracticable to secure the new piers required in the extension to the ruined piers, an effort be made to remove them entirely, or at least to such a depth as will admit the settling of the new piers on a proper basis.

Harbor of Ashtabula.

The east pier from the outer angle, or about sixty feet in length, is represented by the agent as very much out of repair above the water surface, many of the timbers being broken, and the planking torn up and stone washed out; and thence, for a distance of two hundred and fifty feet, entirely gone to a depth of from five to seven feet below the water; the remaining timbers being broken and twisted out of place, so that every gale from the northeast throws out the stone and timber, and widens the breach. The first portion described the agent proposes to repair, by rebuilding it from the surface of the water; the second, by securing the timber of the new work upon the old by means of six-feet iron bolts, at distances of every six feet in length. This mode, he says, was adopted in a similar case at Grand river, in 1837, with entire success. Both these suggestions the board approves, and recommends that they be carried into effect.

The west pier is described as in good repair, with the exception of the line beyond the outer angle, seventy feet of the extremity of which has been carried away to a depth of from eight to ten feet below the surface of the water, the remainder being in a bad state, and requiring extensive repairs. The agent proposes to repair the first by means of two cribs, of sufficient depth to bring the work up to the surface of the water; and thence, from this level, carry up the entire work for the length described as dilapidated, by firmly connecting the two by large timbers from forty-five to sixty feet in length, carefully breaking

butts, and securely bolting with iron as before. This course of proceedings the board approves, and recommends that they be carried out. It would likewise suggest that the breach of two hundred and fifty feet in the same pier, through which the sand from the shore is washed into the channel between the piers, to which the agent calls attention at the close of his report, be also at the same time closed, provided the means available should warrant the expenditure.

The board, in conclusion, desires to call attention to the note on the sketch of this harbor, stating that the sands continue to accumulate against the lake side of the west pier; in view of which, it is of opinion that the further extension of that pier beyond the portion now about to be repaired should be deferred until the question of its proper direction be finally settled. The present direction is north-northwest; whereas, in the harbors generally along the same line of lake shore, it has been deemed necessary to incline them further to the west, and thus cause the deflected waves, raised by the prevailing winds, to counteract the accumulation of the sand against the pier which travels along the shore under the influence of those winds.

Harbor at Grand River.

The agent reports the east pier, rebuilt in 1844–'45, as in good order, and requiring no repairs, save the driving of a few piles for protection against damage by steamers, which, in the opinion of the board, should be done. On the other hand, the west pier is gone, for a length of twelve hundred feet, from one to three feet below the surface of the water. The agent proposes to rebuild this pier; and as it appears to be properly placed, and its destruction due to decay of the timber—having been built in 1832—the board approves of this course, and the adoption, as he further suggests, of the mode of construction used in the rebuilding of the east pier, which, the agent reports, has proved so eminently successful.

The direction of the further prolongation of the west pier would seem, from the continued accretion of sand on the lake side of it, to be an open question in regard to this harbor also—the course northwest, (nearly,) given to the outer end of this pier, for a length of three hundred feet, not having produced the beneficial effects exhibited at other points along the lake shore, where it would seem the same causes are present. The board, therefore, recommends that no further extension of this pier be sanctioned until the points in question be settled by a personal examination of the site. In conclusion, the board would remark, that it has confined itself strictly to the engineering questions suggested in the reports of the agent of the above harbors, and omitting any notice of the matter of the construction of a new scow-crane, of the materials and tools on hand, &c., &c., as more properly belonging to the administrative duties of the bureau. The letter of the agent, with the reports of the harbors enclosed, are herewith returned to the bureau.

I have the honor to be, sir, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,

Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, May 9, 1853.

SIR: The board instructed me to make the following report on so much of the letter of J. R. Bowes, esq., agent, of the 30th ultimo, as relates to the contemplated improvement at Black lake, Lake Michigan, placed before the board by the bureau for that purpose on the 7th:

Referring to his report of the 24th October, 1849, for the plan of this improvement, the agent recommends, as the best mode of expending the present small appropriation of $8,000, to commence the weather pier, by which is understood the northern pier, and carry it out to a sufficient depth to allow vessels to land stone. Were it not that this restriction—taking the general draught of the lake navigation at ten feet—will limit the work of the pier to rather less than 300 feet—or about half the length proposed finally to give it—the board would hesitate to approve the course suggested, considering the question of the direction of the outer part of the pier an open question, to be settled by investigation and further information as to the course of the winds, direction of the drift, &c., &c., prevailing on that side of the lake. That it should be so considered will be seen from the report of the agent already referred to in the following extract: "This is the leeward shore at the seasons of the year most subject to heavy blows, viz: the spring and fall, when the prevailing winds are from the *northward* and *westward*." "The position of these piers will be west 6° north, to prevent their obstructing as little as possible the general drift of Lake Michigan, which is here from the south." But, under the restriction named, the board approves of the construction of the pier in question, and recommends that it be forthwith entered upon.

It takes occasion to call the attention of the bureau to an error in the scale of the engraved map which accompanies the printed copies of the report on the improvement at Black lake, and also those accompanying the reports on the improvements at Lake Muskegon and Grand River, all in Michigan—forming Senate Ex. Doc. No. 20, 31st Congress, 1st session. The originals are on scales of 200 feet to 1 inch; the engravings 133⅓ feet to 1 inch, and so stated over the scales; but the scales themselves are not so reduced, and remain as on the originals—that is, 200 feet to 1 inch.

The letter of the agent is herewith returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, May 10, 1853.

SIR: The board has the honor to acknowledge the receipt of the *letter of the* 4th instant, of Brevet Colonel Turnbull, in reference to

the recent changes at Little Sodus bay, Lake Ontario, and directs me to make the following report thereon:

Colonel Turnbull says: "The aspect of the bay is entirely changed since the survey made in 1845, upon which the plan for improving the entrance was based.

"The bay is entirely open to the lake, the narrow strip of sand which once separated them has been swept away by a succession of violent storms, and is now submerged;" and, in view of this state of things, recommends "a resurvey before commencing any work for its improvement, as a change of circumstances requires a revision of the plan." In this opinion the board fully concurs, and recommends that the survey in question be made at the earliest day possible, under instructions from Colonel T., who, from his personal knowledge of the locality, is fully informed of the necessities of the case.

I am instructed, in conclusion, to say, that the desire of the board, made known some time since to the bureau, to visit the lake harbor improvements generally, is much increased by a knowledge of a like anxiety, as far as Little Sodus bay is concerned, on the part of an officer of the deservedly high reputation of the one in charge of that improvement, as expressed in the following language: "I think it essential that the board of officers for lake harbor improvements should visit the bay before anything is done. I should be happy to have the aid of their advice." The board forbears to dwell on the subject further than to ask that the bureau will take the earliest fitting occasion to call the attention of the department to it. The letter of Colonel Turnbull is returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau of Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, May 11, 1853.

SIR: The bureau having laid before the board, for its examination and action, the letter of Brevet Colonel Turnbull, dated the 9th instant, describing the present condition of the works at Big Sodus bay and at the mouth of Genesee river, both on Lake Ontario, and recommending certain measures in regard to them, I am instructed to make the following report thereon:

Harbor at Big Sodus bay.

The works at this harbor consist of two piers extending from the land on either side and separating the bay from the lake, and two channel piers running out into the lake at right angles nearly from the outer extremity of the first. All the works are represented, in general terms, as in a most dilapidated condition; and this state of things is fully corroborated by the *details as given in* the report of the examination.

The appropriation for this improvement is $10,000—a sum, in the opinion of Colonel Turnbull, wholly inadequate to make the repairs of the entire works. It became a question, therefore, as to which one of these the means at disposal could be applied with the most profit. The conclusion arrived at was, that as there is abundant shelter for vessels inside, it was most important to preserve the entrance by the repair of the cast channel pier, through which there is a breach extending below the water level for eighty feet in length. In this opinion the board fully concurs, and recommends that the instructions of Colonel T. to the agent on the subject be confirmed. At the same time, it would further suggest, as the west channel pier is described as in tolerable order, with the exception of the top timbers, which are somewhat decayed, that these, if the limited means at disposal will permit, be replaced at an early day, and thus, as is probable, save the cost of more extensive repairs.

In regard to the delivery of timber, the arrangements for stone, except so far as the taking a supply for present use from the inner portion of the west pier—a measure the board thinks, with the inspecting officer, may be adopted without injury to that work—the purchase of a boat, tools, &c., and hire of scows, the board, considering these as purely administrative matters, expresses no opinion.

Harbor at the mouth of Genesee river.

The letter of Colonel Turnbull describes the piers at this harbor as nearly demolished. The west pier is breached in many places below water, and, for the remaining length, but one timber in height, and this decayed, shows in places above water, and at others the stone only is seen. The beacon-light at its extremity is thus completely isolated, the keeper of it being able to reach it only by means of a boat; and even with this, during rough weather, it is impossible to do so, as the sea breaks over and renders it inaccessible. The evil of this state of things is too unhappily shown by the fact that, no longer ago than the night of the 6th instant, a large schooner, with a valuable cargo, in attempting, in the absence of the light, to enter the harbor, was wrecked.

From the same cause, also, the steamer due at the port the same night was obliged to keep on to Lewiston. Under this pressing necessity, the inspecting officer recommends, as an immediate expedient, the bridging of the breaches of this pier by trestle-work—a measure, in his opinion, involving only a moderate outlay; and thus, by rendering the beacon always accessible from the shore, afford to navigation the presence of a light at all times. It occurs, however, to the board that the measure in question may properly belong to the Light-house board, for the reason that in the appropriation bill for that branch of the service, approved August 31, 1852, is contained an item, in reference to this harbor, in the following words, to wit: "For the repair of the pier at the mouth of the Genesee river, and the erection of a beacon-light on the same, twenty-six hundred dollars." However, that the expedient suggested by Colonel Turnbull should at once be *carried into effect*, the board does not entertain the least doubt. The

ıtion as to the fund from which the cost should be drawn is not, in view of the board, in its province to determine; at the same time, it deemed it its duty to call the attention of the bureau to the subject. he immediate repair of the piers, which the board infers from the mmendation of Colonel Turnbull to give authority to the agent at ıarbor to purchase the necessary quantity of timber, &c., as con-ɔlated, is fully approved. It would suggest, at the same time, that he west pier has the beacon-light on it, and is exposed to the ɾiest seas, the entire force—if this and the available means are in-cient to carry on the whole of the repairs simultaneously—be ap-l in the first instance to that pier.

s in the case of the harbor at Big Sodus bay, the questions as to iding the necessary timber and stone and a boat, the board pre-es it is not the wish of the bureau to offer an opinion, further than ıy that, in its judgment, the stone, at least a limited portion of it, be taken from the shore-ends of the piers, now far within the ɜr line. The letter of Colonel Turnbull, with the enclosures, ely: A pencil sketch of Big Sodus bay; two letters from Jason er, United States agent at Charlotte, New York, to the bureau, d the 30th of April last; one letter from the same to the same, of ɔth instant; and a copy of a letter from the bureau to Jason Baker, ıt as above, dated the 4th instant.

have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

ol. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, May 16, 1853.

R: The letter of Mr. William Gamble, agent at Waukegan, of the instant, referred by the bureau to the board, has been duly con-ed, and I am instructed to make the following report thereon:

ıe letter of Mr. Gamble contains but a single proposition, to wit: change "the position of the breakwater as located on the plan ved from the bureau," "marked in red," on a survey made the ɜnt season, transmitted therein, and crossing in very shoal water ɔouth and middle bridge-piers constructed by the forwarding mer-ts of this place, (Waukegan,) on which and the north bridge-pier ıe shipping business is now done, "to one on a clay bottom, in a ı of twenty feet water, about three hundred feet east of the middle ge-pier, beyond the reach of the moving sand, which would leave ɔd anchorage for vessels taking shelter under its lee in a gale of ." Mr. Gamble submits the proposition to the consideration of the au at the request of "the most intelligent and influential citizens e place, who are fearful that *any* permanent (solid) structure placed *e sand bottom, where the silt* current is moving along shore, so *obstruct navigation," the least* obstruction causing a deposit, as

will be seen by reference to the lines of soundings next to the bridge piers, when compared with the other lines.

The general proposition here set forth, namely, to change the location of the contemplated breakwater from shoal to deep water, and at the same time to give it a position parallel with the shore, the board fully approves. But in sanctioning these changes, the board desires, as the physical features of the locality make all positions equally eligible, to be understood as expressing no opinion as to the precise position of the work in reference to the town front. Were no further improvements by private enterprise to be made, the problem would be one of easy solution; since, in that case, there could be no doubt the position in advance of the middle and south bridge piers, as giving most accommodation to the community, would best subserve the public interests.

But there is no reason to suppose these private enterprises will be confined to the three present bridge-piers; but as soon as the wants of trade increase they will likely increase, until they cover the entire town front.

The question then arises, how shall the private interests affected by the proposed breakwater be reconciled? This subject is referred to in a report on this harbor from Lieutenant (now Captain) J. D. Webster, topographical engineers, dated the 3d of January, 1850; and as the board coincides with the view of it there taken, it begs leave here to extract from the report, for the ready examination of the bureau, the following portions:

Captain Webster suggests "that the lots on shore to be covered by the breakwater should be purchased by the municipal authorities, and controlled by them, under the advice of the engineer of the works.

"Whether this could well be effected, I do not know. I see no safety except in some such regulation.

"Again: there seems to be no controlling reason, in the configuration of the shore, for placing the breakwater opposite any particular point in the front of the town. The lots that would be sheltered by it would become at once the most valuable property in the place.

"The location of such a work becomes a very delicate duty.

"In the absence of natural features indicating its proper position, how shall the engineer answer the complaints of individuals who may deem themselves slighted or aggrieved by his action?

"This seems to me another reason why the property to be thus protected and enhanced should belong to the municipal authorities, as such, and so the action of the government in the case be for the benefit of the whole."

The board, in case the recommendation of the agent to place the breakwater in front of the middle and south bridge-piers is approved, begs leave to call attention to the position given to it on the recent survey of the harbor, enclosed in Mr. Gamble's letter.

It is drawn in black, parallel to the shore, in from 18 to 20 feet water, and 350 feet beyond the outer extremity of the longer of the two bridge-piers; its length (1,360 feet) being governed by N. E. and S. E. lines, bounding the arc round by the east of the most violent winds, drawn *from points* at the depth of ten feet, at the piers on either hand.

It desires, likewise, to call attention to the proper position (that in

red being erroneously put down) of the same work in shoal water, also drawn in black, transferred on the map from the original design in the bureau.

The letter of Mr. Gamble, and the map of the harbor which accompanied it, is herewith returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

Colonel ABERT,
Bureau Topographical Engineers.

WAUKEGAN HARBOR, ILLINOIS.

Estimate of the probable cost of constructing a breakwater of crib-work filled with stone of the following dimensions: 1,365 *feet long,* 25 *feet wide,* 25 *feet high; depth of water* 20 *feet.*

Siding: 69,500 feet white oak timber, 12 inches by 12 inches, by 30 and 35 feet, at $15	$10,425 00
Piles: 9,520 feet white oak timber, 12 inches by 12 inches, by 35 feet, at $15	1,428 00
Ties: 86,000 feet round white oak ties, 25 feet long, to square 9 inches at small end, at $10	8,600 00
Clamps: 16,000 feet, (board measure,) 3 inches by 8 inches, by 14 feet, white oak, at $14	224 00
Stringers for deck or platform: 5,460 feet white oak timber, 6 inches by 12 inches, by 30 feet, at $10	546 00
Decking or platform: 74,000 feet (board measure) pine plank, 3 inches by 6 inches, by 16 feet, at $12	888 00
Plank for exposed face: 103,000 feet, (board measure,) 3 inches by 12 inches, by 12 feet, at $14	1,442 00
Spike: 42,465 pounds 9-inch spike, at 7 cents	2,972 55
2,600 pounds 6-inch spike, at 8 cents	208 00
Iron: 38,900 pounds inch-square iron, for bolts, at 5 cents	1,945 00
Stone, 4,900 cords good hard stone, for ballast, at $8	39,200 00
Workmanship and superintendence	20,475 00
Machinery and tools	2,500 00
	90,853 55
Add for contingencies 10 per cent	9,085 35
Total probable cost	99,938 90
Deduct amount of present appropriation	15,000 00
Probable amount required	84,938 90

I have estimated the cost of the above materials at the present market price.

WM. GAMBLE, *U. S. Agent.*

WAUKEGAN, ILL., *May* 27, 1853.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, May 18, 1853.

SIR: I am instructed by the board to make the following report on the letter of Mr. C. F. *Staniford, agent* at Burlington, Vermont, dated

the 10th instant, and referred to it by the bureau on the 14th, suggesting a change in the order of the operations for the present season at the harbor at that place.

Mr. Staniford states, in his letter, that his predecessor was instructed by the bureau, on the 26th of January last, "to repair the piers before commencing the addition;" but this course he does not consider the best, and suggests that any contemplated addition, this season, to the pier or breakwater, be added in the first instance. The reasons on which he grounds this opinion are stated, in his own words, thus: "I have examined the work, and believe it will not be impaired by delay, if done before moving ice next spring. It seems necessary to commence the addition immediately after the receipt of the timber, inasmuch as I shall be limited for room, and somewhat exposed to the action of wind and water, and believe it would be a saving to the government to go on with the pier until arrived at the water's edge, or until perfectly secure or completed—then repair the old."

As the extension of the work involves the employment of new cribs, and as these require the most favorable weather to get in position and secure, the board coincides in opinion with the agent, in the order of proceeding recommended by him; at the same time, it would suggest that he be cautioned to confine the operations of the extension within such limits as shall leave a sufficient balance of the current appropriation of the harbor to meet the cost of the repairs in question.

The letter of Mr. Staniford is herewith returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Colonel Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, May 19, 1853.

SIR: I am instructed to make the following report on the letter of Captain Howard Stansbury, topographical engineers, on the harbor improvements at Cleveland, Ohio, dated at that place on the 12th instant, and referred to the board by the bureau on the 16th. The letter of Captain Stansbury informs the bureau:

1. That the public property, with the exception of two scows, an old pile-driver, and a small office, is almost useless.

2. That the old office, in which the tools, boat, and other property had been stored, was burned, and the present building erected in its stead.

3. That this office has been in the occupancy of a private firm for the past two years.

4. That he has notified the occupants to vacate it, and that he is now *putting it in* order and furnishing it for use.

5. That there is neither map, paper, book nor drawings, &c., show-

ing any trace of the agency of the government in the construction of the works.

6. That the east pier has been taken possession of by the several companies whose railroads terminate at Cleveland from the east.

7. That some 400 or 500 feet of this work from the former lake shore is converted into private wharves.

8. That he has received significant hints that the government building (the office) upon the east pier must be removed, for the accommodation of one of the railroad companies.

9. That the east pier, with the exception of about 500 feet, is occupied by this company.

10. That beyond the office three coal wharves are established upon the pier, for which the railroad company receives an annual rent of $1,000.

11. That the wharves and fronts and offices of this company are wholly upon the east pier, which they are making wider towards the east by wharfing.

12. That in his opinion, if the railroad company has a right to remove the office from the point on which it now stands, it has an equal right to forbid its erection on any other part of the work; and, for the same reason, the right to require the removal of the beacon-light erected thereon.

13. That if the railroad company has an exclusive right to the occupancy of the pier, it may compel the government to pay rent for the office and light-house, or remove them.

14. That he desires instructions as to his course in case the railroad company shall require the removal of the office.

15. That a large portion of the parapet wall of the east pier, having become useless as protection against the lake, by the widening by private enterprise, as already mentioned, it may be reduced to the lower level of the work, and the stone advantageously used on other portions of the harbor improvements.

16. That application had been made to him to prevent this reduction, which he conceives he has no authority to grant.

17. That he proposes to repair and strengthen the east pier-head, which has been injured by a steamboat running against it and displacing and breaking some of the stone.

18. That a considerable portion of the stone coping of the inner line of the east pier is in a dilapidated state, which in his opinion should be repaired by those using it.

19. That that portion of the west pier which lies within the lake shore, as now formed, is occupied by the depôt and buildings of the railroad from Norwalk and Toledo.

20. That all that is required, in addition to the repair of the east pier-head, is the repair of the west pier from the lake shore outward, and its extension into the lake for such distance as may be deemed expedient.

21. That a large quantity of stone blocks for the coping of the west pier has fallen into the harbor, for the raising and piling of which upon the pier, he proposes, as a matter of economy, to pay a given price per cord.

22. That he is engaged in hauling out and repairing the crane-scows and pile-driver, the condition of which he describes—the latter with the engine nearly worthless; he asks authority to obtain a new engine in case the boat is worthy of repair.

23. That he has contracted for a heavy yawl to carry stone and other materials; and asks for authority to purchase one of Francis' galvanized iron boats for the use of the harbor.

24. That he proposes to erect a water-gauge at the harbor to register the level of the lake, in connexion with observations on the force and direction of the wind; and asks authority to construct a sufficient number of others for the different harbors within his superintendence.

The board having maturely considered the various matters contained in Captain Stansbury's letter, and of which the foregoing is a condensed view, is of opinion that all operations, whether for the construction of new works or the repair of old ones, should be suspended until the question of ownership over them be definitely settled. With this view it respectfully recommends that the bureau call the attention of the War Department to the subject, in order that the proper legal officer may be directed to take such action as a proper regard for the public interests would seem to dictate. The board would likewise recommend, that during the suspension of active operations caused by the carrying out of the above suggestion, Captain Stansbury be directed to make a detailed survey of the harbor and the adjacent waters, specifying on the map of the same, from the best sources within his reach, the claims of ownership set up and referred to in his letter; and that in view of this service he be authorized to purchase the boat he asks for, and to cause to be constructed and established the water-gauge, &c., at the harbor; and further, that he be authorized to have constructed and erected similar gauges at all the harbors under his general superintendence.

As Captain Stansbury has not, it appears, received from the late agent, or been able to find, any papers connected with the harbor improvement—one of the many evils growing out of the employment and frequent change of civil agents, and the suspension of timely appropriations—the board would advise that he be furnished with copies of all those on the files of the bureau that may be necessary to give him a proper insight into the proceedings heretofore. In regard to his course, in case he should be called upon by the railroad company, whose works abut against the east pier, to remove the office, the board deems it best that he should take no further action than to report promptly the fact to the bureau, and await further instructions; and, finally, that it deems it unadvisable to allow the repair of any portion of the works to be made by private individuals or companies, as the authorization might be construed into an acknowledgment of the right of ownership in the parties so engaged.

The letter of Capt. Stansbury is returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, June 21, 1853.

SIR: I am instructed to make the following report on the letter of Mr. George S. Patterson, agent at Huron, to the bureau, dated the 16th ultimo, giving the result of a recent examination of the west pier at that place.

The only map of the harbor of Huron, before the board, is one without date. On this map the west pier is represented as 1,400 feet in length, and the east pier as 1,587 feet in length. These lengths, from the position of the light-beacon being given on the former, it is presumed, are the true lengths of the works, and hence that the map is one of comparatively recent date. But the board is at a loss to reconcile these dimensions, so far at least as the west pier is concerned, to the description of the condition of that pier as given by the agent. He says "that about seven hundred feet of said pier is entirely gone, or to an average of about six feet below the surface of the water; the *balance* (about two hundred feet) is in a dilapidated condition, and needs a good deal of repairs;" by which it would seem he puts down the entire length of the pier at only about nine hundred feet, and not fourteen hundred feet, as drawn on the map. The conclusion, however, came to is, that the agent, in using the word *balance*, had in mind that portion of the pier requiring repairs, and not the entire length of the pier.

If this be the true explanation, then there still remain five hundred feet of these fourteen hundred feet that do not require any repairs. These five hundred feet the board does not hesitate to assume, from the greater depth of water, and the more recent construction, comprise the outer end of the pier, including, of course, the pier-head on which the light-beacon stands; and, also, that "the balance, (about two hundred feet,) in a dilapidated condition," comes next in order towards the shore. With this mode of reconciling the report of the agent and the map of the harbor, the board, believing the present ruinous condition of the pier to be mainly attributable to the small depth of water in which the cribs are founded, begs leave very respectfully to recommend, that until such time as a final revision be made of the plan, including the mode of construction of the works of the harbor, all repairs be confined to the first seven hundred feet of the pier, measured from the pier-head, or until the depth of say ten feet is reached; and that from this point to the shore a pathway be raised upon trestles, out of the reach of the sea, upon the ruins of the present work, to form a means of communication between the shore and light-beacon. The board would also recommend a like course in regard to the east pier, from the outer end, towards the shore, to about a depth of ten feet, in case that pier, within these limits, requires repairs.

The means available for this harbor are by the river and harbor bill act, approved August 30, 1852.

For repairing the piers at Huron River harbor, Ohio	$10,000
By the Light-house bill act, approved August 31, 1852, "For the repairs of the light-house, pier, and pier-head, in the harbor of Huron, on which the light-house is built.....	6,000
	16,000

The letter of Mr. Patterson is herewith returned.

I have the honor to be, sir, very respectfully, your ob't servant,

JAMES KEARNEY,

Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,

Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, June 23, 1853.

SIR: The board having had under consideration the letter of Mr. Lewis Darrah, agent of the harbor at Munroe, dated the 19th ultimo, giving an account of the present condition of the works at that place, and recommending a course for future operations, instructs me to report, as the opinion of the board:

1. That the three breaches in the north pier, mentioned by the agent, be at once filled up with new work of the same width and height as the original work.

2. That the remainder of the same pier, described as decayed for eighteen inches below the present level of the lake, be renewed to the original height.

3. That the question of the adoption of the plan "to crib anew four feet north of the present or old work, and tie across the whole, making a 12-feet pier," as proposed by the agent, be postponed until the contemplated inspection of the harbor by a member of the board be made and reported upon; and

4. That no measures be taken in reference to the south pier until the result of the above inspection is known; and, also, it is seen that the repairs to the north pier, and the additional line of cribs proposed for that pier, if approved, can be made with the present available means.

The board desires me, in conclusion, to call the attention of the bureau to the sketch of the harbor, accompanying the letter of the agent, as deficient in soundings and meridians.

The letter of Mr. Lewis Darrah, agent, is herewith returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,

Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, June 23, 1853.

SIR: I am instructed by the board to report on the reference by the bureau of the letter of Captain Howard Stansbury, topographical engineers, dated at Cleveland, the 26th ultimo, that, in its opinion, the report of the board of the 19th of the same month on his letter of the 12th, a copy of which was subsequently forwarded to him by the bureau, supersedes the necessity of any further report on the subject referred to therein. The letter of Captain Stansbury of the 26th is herewith returned to the bureau.

I have the honor to be, sir, very respectfully, your obedient servant,
JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, June 23, 1853.

SIR: The board instructs me to make the following report on the letter of Mr. John R. Bowes, agent at the harbor of Black Lake, Lake Michigan, dated May 20, 1853, in relation to the proposed improvement of that harbor.

The agent, in acknowledging the receipt from the bureau of the views of the board of the 9th ultimo, in reference to the improvement of the harbor of Black Lake, says: "The principal drift at this place is from the south, and the pier suggested by me to be first constructed as the windward is the south pier, and not the north pier, as understood by the board of engineers." By reference to the report of the 9th, the bureau will see the board was in doubt as to the windward pier. This doubt, in the absence of any positive information upon the subject, was hardly cleared up by the quotations made by the board from the report on this harbor, and as the impression existed amongst its members that the drift proceeded from the north, the construction of the pier on that side was recommended. The board now, however, has the highest authority, in the intelligent agent at the harbor, to know that the drift comes from the south; and it is therefore only necessary for me to state to the bureau, in the name of the board, that all that was said in the report of the 9th in regard to the north pier of the design, considered as the windward pier, applies properly to the south pier.

The board concludes that, as the questions in regard to the contracts

for timber, &c., are purely administrative, the bureau desires it to confine itself to the single engineering points just disposed of.

The letter of Mr. Bowes is returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Col. Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, June 23, 1853.

SIR: The board has had under consideration the report of Mr. J. A. Carswell in relation to the harbor of Racine, Wisconsin, and it has instructed me to make the following report thereon:

The agent states that the north pier is in good condition, except about six thousand feet of the plank (board measure) repaired by the city authorities of Racine in 1851, but since then carried away. He states that, in the same year in which the repairs were made, the city of Racine added fifty-four feet to the length of the north pier. He reports the south pier as being somewhat damaged—the timbers on the outer end and some portions of the plank covering carried away—and he estimates the amount of timber and plank necessary for its repair. He recommends the further extension of the north pier and of the southern one in a direction indicated upon the map accompanying his report.

The board is of opinion that the repair of the piers ought to be undertaken at once; that under the circumstances of the case—namely, the shallow water in which it is necessary to build the cribs, in situations exposed to the lake storms, and the much greater depth which they must ultimately occupy—the use of pine timber for the lower tiers should be allowed, and that the agent should avail himself of the consent of the contractor to "reduce the aggregate amount of my [his] contract for Racine, so that a sufficient amount of the appropriation will be left to put the work in."

Concerning the proposed extension, I have very respectfully to refer you to the opinions of the board in connexion with the harbor of Erie, and to state, morever, that it will not be in the power of the board to decide as to the position of the prolongation of the piers seaward, until it has in its possession more information than it possesses at present, and until it is enabled to trace a meridian line upon the chart on which the works are drawn.

The original papers received from the bureau are herewith returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Colonel Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, June 24, 1853.

SIR: The letter of Mr. John R. Bowes, agent at the harbor of Michigan City, dated the 28th ultimo, submitted by the bureau to the board, having been maturely considered, I am instructed to present the following report thereon:

The proposition of the agent on the present occasion is confined to the character of the profile, and not the plan of the work, which the board conceives definitely, or at least for the present, settled for this harbor. This profile, and the materials composing it, he describes as "a mole or breakwater of rough stone, founded in twenty feet water, which will be a clay bottom, to rise eight feet above the surface of the lake; a cross section, exhibiting a triangle of which the exterior is one base to one perpendicular [1 on 1] on the natural batter of rip-rap slope; the interior slope one to two, [2 on 1.] The whole base will be forty-two feet; the vertex to be coped (paved) on both sides with heavy stone slabs, clamped together, fifteen feet long, extending under the water-line sufficiently to prevent the vertex being disturbed by the action of the lake or the ice during the winter; this coping to be secured by two-inch iron bolts passing through each face, and also through anchor piles previously driven: these bolts to be keyed and cemented. To protect the exterior slope, a row of consecutive piles to be driven at its heel and cut off below water, as at the Cleveland works."

Of this profile the agent says: "Its durability is evident in the nature of the materials used, and from the advantages a slope possesses over a vertical wall in modifying and resisting the direct and heavy action of the lake, which would be brought to bear upon its exterior slope." He is also of opinion that the mode of construction combines "simplicity, economy and durability;" that it has "these advantages over a crib breakwater structure;" as it requires no more mechanical skill than is necessary to drive the piles and secure the paving; as the rough stone forming the base may be discharged from vessels directly into position; as a saving is made in machinery, in mechanical and other labor, in the quantity of stone, and in loss of machinery and materials in operations so distant from the shore.

The board wholly dissents from the views of the agent in regard to the character of the profile. It does not admit the durability claimed for it in "modifying and resisting the direct and heavy action of the lake." The board is of the opinion, indeed, that a vertical profile, or one nearly conforming to it, is the proper one for works founded in even a less depth than twenty feet, exposed to no larger waves than the waves of the lakes, for the reason that their oscillatory motion is not cut off and changed to the inclined or horizontal motion of rollers and breakers—a form under which alone works are subjected to their direct and heavy action. Neither is the board disposed to admit all that is claimed on the score of economy for works constructed on the profile recommended. So much of the stone only—namely, three-fourths—as forms the profile between the bottom and the draught of vessels depositing it, could be *discharged directly from* them. This being the case, no

chinery would be required to deposit the remainder of the stone, and of course much of it would necessarily be handled twice, and involve the risk, in some measure at least, of the loss of machinery. The real advantage to be gained, among the many enumerated, is the reduction of the quantity of materials, supposing with the agent that the rip-rapping would stand upon his profile; but this profile, it is seen, the board deems inadmissible. Exceptions might be taken to other features in the design, such as the expedient so often tried, but never with success, of paving a slope exposed to the severe batter of the waves, the impossibility of depositing stone in rip-rap on a slope of two on one, &c., &c. Sufficient, however, is already said to show that the recommendation of the agent in this instance should not be approved, but that he be required to carry out the plan adopted for this harbor, by commencing at a central point with the usual crib-work, and continuing it in either direction as far as the available means will justify.

The letter of Mr. Bowes is returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Colonel Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, June 25, 1853.

SIR: I am instructed by the board to report in relation to the harbor of Black river, Ohio, that the agent represents the works of both piers at that place as being in a ruinous condition; and he proposes to limit the expenditures at present to the repairs of the west pier, inasmuch as this, in the language of the agent, "is the one which at present (for the safety of shipping, and at the western extremity of which stands the light-house) is in the worst condition;" and "because it is not possible to do what should be done with the *means* to the west pier."

The agent describes the condition of the west pier, saying that "from the light-house platform 124 feet is standing; the stones have disappeared from the cribs, settled or washed out, so they are not full by an average of three feet; planking partly gone. Then commences a break of 200 feet; cribs and stone gone to the average depth of eight feet. There remains 168 feet of the pier undermined and leaning three and a half feet into the harbor; stone gone out of the cribbing, averaging five feet. Then commences another break of 160 feet; timbers partially gone; plank and top ties all gone; stone gone four feet. From this last-mentioned break to the original shore of the lake, 424 feet, planking mostly remaining; top ties rotten, and broken stone mostly remaining."

The agent proposes filling the break next the light-house, "so it may be possible to get to the house in rough weather." And his plan *is to use cribs thirty* feet long and fourteen feet wide under water, *pped above water, say* six feet, and bolted together with iron bolts, to

be tied at the bottom as often as every three feet, and above as often as every six feet, and filled with stone well packed, and to use no piles, the experience there showing them to be of little use; and he supports his opinion of the efficiency of these means of securing the work, by stating that the best work at that place, and that which has stood well and is now in the best condition, is a part of the east pier, which was built after this method.

The board, while approving of the plans recommended by the agent at Black river, would take occasion to remark that the length of the pier, as deduced from the several distances given in his account of the condition of the several portions of the pier, differs from the length given in the reports of the bureau, and also from that represented upon plans of the work which the board has consulted. The length of the west pier, as given by the agent, falls short of the length given in the printed reports of the bureau 303 feet, and it is 318 feet less than that represented upon the plans now referred to. The board has no means of reconciling these differences; and it is unable in this case, as it has been in others which have come under its notice, to understand, as clearly as it could wish, the description of the repairs proposed by the agent—and this is an inability which is owing, not so much to want of clearness on the part of the agent, as to the want of the drawings, which are often indispensable illustrations of written reports upon such subjects as these. The board is aware that the qualifications of a draughtsman or engineer are not always to be looked for in the local agents; but it has very respectfully to suggest that the defect might, in some measure, be remedied through the agency of the general superintendents, if they were required to report upon all plans of repair or construction emanating from the local agents, or if the local agents were required to report respecting them through the general superintendents; for, under such a regulation, we might hope often to profit by the local and professional knowledge of the general superintendents, who are always, or ought to be, engineers.

The letter of Mr. Holbrook is herewith returned to the bureau.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Colonel Top. Engineers, President of Board.

Col. J. J. ABERT,
Corps Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, July 13, 1853.

SIR: The report of Brevet Lieutenant Colonel McClellan of the 7th instant, upon the improvement of the Tennessee river, is received, and will be laid before the board at its next meeting. As Colonel McClellan proposes departing from the plan of improvement of the navigation near Little River shoals proposed by Lieutenant Colonel Long, who had carefully studied this subject, I think the board must wish to have his reasons *for so doing; and I* would very respectfully suggest to the

bureau that it would be acceptable to have them by the time the subject is taken up for consideration.

In conclusion, I may venture to say, that Colonel McClellan's intention of blasting and removing the "rocks and hog-backs" from the channel cannot but be of advantage to the navigation, if he is careful not to remove any the absence of which might lead to too great a reduction of the depth of water above.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Colonel Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, July 13, 1853.

SIR: The letter of Mr. J. J. Lints, agent at Erie, dated the 23d of June, has been received, and I have, in connexion therewith, very respectfully to refer you to the enclosed extracts from the proceedings of the board containing its opinions in relation to this harbor. The same opinions apply to Sheboygan, Wisconsin, reported upon by the agent, Mr. D. Newland, on the 30th of May.

Extracts from these reports have been made for the use of the Light-house board, in relation to points falling within its sphere of duties.

The originals are herewith returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Colonel Top. Engineers, President of Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, July 15, 1853.

SIR: The letter of Captain H. Stansbury of the 11th instant, relating to the harbor of Cleveland, is received. There is in this letter matter of very grave importance not seeming to fall within the province of the board, and which it would not be authorized to take into consideration. I will therefore confine myself to the one passage which seems to be within the limit of its duties, viz: the one relating to the request of the city council for permission to drive piles along the inside face of the east pier, for the protection of the guards of the larger class of steamboats entering the harbor in a heavy sea. This subject of the provision, which should be made for protecting the guards of the larger steamboats, has been discussed by the board, and the conclusions to which it has arrived do not seem to me to conflict with the request of the city

councils of Cleveland, or forbid Captain Stansbury's acceding to it as a temporary measure, until the works themselves shall have been brought into a condition to afford such protection.

The letter of Captain Stansbury is herewith returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lieut. Col. Top. Eng., President of Board.

Colonel J. J. ABERT,
Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, August 3, 1853.

SIR: I have, very respectfully, to make the following report concerning the "levee across the mouth of the river San Diego, in the State of California, to turn it into its former channel into False bay," for which there was appropriated the sum of $30,000 by the act of August 30, 1852.

Our only information, which is very meagre, on this subject, is derived from the official report and memoir, and the maps, plans, and estimates of Lieutenant Derby, dated the 10th April, 1853, and from some facts informally received from Captain Hardcastle, who has a personal knowledge of the locality; but there is not yet enough in our possession to enable us to deal with the subject much in detail.

The Bay of San Diego, one of the best harbors, or perhaps the best, between Callao and Puget's sound, receives the river of the same name, after it has traversed a very sandy region of some forty miles in length. The river is occasionally very rapid, and carries with it, during freshets, great quantities of sand. At the time of the first settlement of the country, it is said to have discharged itself into Puerto Falso, or False bay, a slight indentation of the coast, separated from the Bay of San Diego by an extensive plane of sand. The course which the river followed at that time lay near the northern border of the plane, and so continued until the year 1811, when by the continued deposition of sand its bed was raised and its channel shifted considerably to the southwestward of the position it before occupied; but the river still flowed, as it necessarily must, through the plane, and discharged itself still into Puerto Falso, on the sea-side; the line which it then followed lying near the southwestern, as the older bed lay near the northern, border of the plane. By this new channel the river continued to flow until the year 1825, when an extraordinary freshet occurring, it overflowed its banks, and, abandoning the channel we have been describing, it made for itself another lying near the eastern border of the plane, or that on which stands the old town of San Diego. From this time forward the river was diverted from False bay, into which it had until then discharged itself, and which it had nearly filled with sand-shoals, and it flowed thenceforth into the Bay of San Diego, and so continues to the present day, carrying with it, during the fresh-

ets, vast quantities of sand, which is yearly encroaching upon San Diego, as formerly it did upon False bay.

The object of the proposed work is to intercept the communication between the river and bay, and to direct it into False bay, through the line of one of its ancient mouths, and Lieutenant Derby proposes to accomplish this by cutting, upon a straight course, a canal from some point near the hill on which stand the ruins of the Old Presidio or Spanish garrison, to a point in one of the sloughs in which the river formerly flowed. He proposes two lines of canal for consideration—both proceeding from the same point, near the Presidio; one of them on a course north, fifty-five degrees west, (true,) to be excavated on a length of 6,213 feet; the other on a course south, eighty-five degrees west, (true,) to be excavated for a length of 6,326 feet. In either case the canal to have a width of twenty feet, with a depth of four feet of water.

The first mentioned of these lines of canal, running along the northern side of the sandy plane already mentioned, would discharge itself by the oldest known mouth of the river. The second, following the more southwardly course indicated by Lieutenant Derby, would discharge itself by the same channel that the river occupied between the years 1811 and 1825. Lieutenant D. gives the preference to the last of these lines, and for reasons which would be quite satisfactory if we were about to carry the river on a straight line between the Presidio and one of the points selected by him. He presents five different plans for carrying into effect this idea of conveying the river from the vicinity of the Presidio to the point which he has chosen for discharging it into the channel it occupied between the years 1811 and 1825; and these plans are characterized mainly by the difference of length, and the greater or less costliness of the embankment intended to confine the river within its prescribed limits. In every case, however, he proposes to form the embankment nearly in contact with the border of the canal.

Lieutenant Derby has judiciously selected for the new outlet of the river the position which it is known to have occupied during the period between 1811 and 1825; this position, as well as that of the most ancient of the known mouths of the stream, being still well defined upon the ground by bold, deep sloughs, into which the tides flow for some distance into the sandy plane we have spoken of. But we think there are weighty objections to the idea of a canal formed upon a straight line of nearly one mile and a quarter in a loose, shifting sand, of considerable depth. The same debouch for the river that Lieutenant Derby proposes, we would prefer to follow, either exactly or very nearly the old course of the stream from the hill near the Presidio to its outlet into False bay—a course which the river had at a former period already traced for itself, and which it maintained for many years, or from 1811 to 1825, and which it would have maintained for an indefinite period, if the sands carried into it by the stream had not been allowed to accumulate until the channel had no longer sufficient capacity for the discharge of unusual floods. This channel, which is *said now to be* half filled with sand, (along the greater part of its *length,) ought to be* re-opened to a width and depth sufficient for the

discharge of the greatest floods. Such a canal would probably suffice for the discharge of the river into False bay in ordinary times, of freshets especially, if a dam were constructed across the present bed of the stream upon the line suggested by Lieutenant Derby, so as to turn it effectually into its proper course. A better plan, however, and a much more effectual one, would be to detach the dam altogether from the line of canal, and in its stead to construct a levee, or bulkhead, partly or nearly in the position of La Playa road and its prolongation, or upon the lines E F G, drawn on Lieutenant Derby's map: the levee to extend all the way across the sandy plane, and also across the river, and abut upon the fast land. This line would be very nearly, if not quite, the shortest upon which we could construct a levee for the purpose of intercepting the extraordinary floods in their passage towards the bay of San Diego, and forcing them to maintain their course in the direction of Puerto Falso. The line would have the advantage, it is said, of proximity to good materials for the formation of a dam, and its remoteness from the probable line of the currents would be likely to insure its safety, inasmuch as, if such be the case, there would be a large body of dead or still water interposed between the dam and the action of the floods. Another advantage has been suggested with reference to the position of the northeastern termination of the levee now proposed, and which should abut upon the fast land at or near the old town. It is said that the inhabitants depend upon the river alone for their supply of water, and that a bulkhead thrown across the river above the town would cut off the supply. This would be undoubtedly a fatal objection to such a work; but it is one which does not apply to the locality we are now proposing.

The height of the proposed levee is projected, on Lieutenant Derby's authority, at about four feet above the level of the plane through which the river flows; and if we assume as probable, that the crown of the levee is to be at least one foot above the highest freshets known here, we would have but three feet for the head of water, the pressure of which the dam should be calculated to resist, and this appears to be the probable maximum to be provided for, because it is apparent that the general flow of any waters overspreading the plane would be strongly in the direction of False bay before it could attain a height of three feet at the proposed bulkhead, (so that the bulkhead would be relieved from the pressure,) before it had attained an elevation sufficient to endanger the crown of the bank.

An embankment of the height now assumed, if it were built of clay and gravel, and retired from the influence of the current, would not require any unusual or expensive measures for its security, except at the crossing of the river near the town. The following profile of the embankment will sufficiently explain itself, with the remark, that to prepare the foundation for it, it will probably be enough to clear away the top soil to the depth of not more than two feet, in order to get to a tolerably firm footing. Moreover, it is not supposed that any other revetment or protection of the surface will be required than the ordinary vegetation of the vicinity. As to the slopes of the embankment, these will be determined by observation, and the ratio of the base to the altitude will be increased, if it is found hereafter that the rains are likely

to degrade the work; if constructed according to the inclination given in the sketch at the passage of the river, of course the usual known precautions should be employed for the strengthening and defending of the work, and especially for securing for it as firm a footing as possible, and for enabling it to withstand the probable efforts of the stream to undermine it, and these precautions should be redoubled whenever a firm foundation is to be found only at great depths.

But it appears from the report of Lieutenant Derby that the necessity for such unusual precaution is to be anticipated only on a very limited portion of the embankment.

We have not the means of making a detailed plan and estimate of the work now proposed. We do not know what is the volume of water discharged in a given time during freshets. We have not the length, breadth, or depth, of the channels by which the river formerly discharged itself; nor have we sufficiently precise information on these points with respect to the present river below the Presidio, as it traverses the sandy plane that separates the two bays. We have not, therefore, the means of estimating for our own satisfaction, or for that of others, the cross-section that ought to be given to the channel into which we propose to turn the stream. Moreover, we have not the exact length nor the longitudinal profile of the levee proposed to be constructed near the Playa road, a profile for that portion of the levee which crosses the sandy plane, nor a profile for that portion that must be constructed across the river-bed. We want also the slope which the sides of the banks ought to have in order to resist the heavy and continued rains which occur in that vicinity, or the slope which is proper for vegetation, as one of the means of protecting the levee.

Notwithstanding this deficiency of information, it is presumed that some approach to the probable cost of the work ought to be attempted in this report, and such an estimate we will now give.

1st. We have the length of excavation of the old bed of the river, (1811 and 1825,) following its sinuosities as given in Lieutenant Derby's sketch of the ground, about 3,300 yards, on a cross-section of about 9 yards. If we assume as sufficient the discussion given by Lieutenant Derby, these elements—namely, 3,300 yards × 9—will give for the solid representing the amount of excavation 29,700 yards, only one half of which (14,850 cubic yards) should be carried into the estimate, because the ancient bed of the river is supposed to be but half filled with sand.

2d. For the proposed levee or embankment near or upon the Playa road, we have from Lieutenant Derby's map the approximate length of 1,090 yards to the edge of the present bed of the river, with a cross-section of say 7 yards, or 7,630 cubic yards.

3d. We have for the probable excavation to a firm foundation for the embankment, a section of 2 × 1,090 yards = 2,180 cubic yards.

4th. For the probable length of the portion of the levee, or bulkhead, which must be carried across the bed of the river, using Lieutenant D.'s map as our guide, we have 140 yards—a distance not given with *any degree* of confidence, because we can only determine upon the *ground, and after* a very careful survey, the point within or near the *limits of the* town of San Diego where the embankment should ter-

minate. It may here be remarked that probably a shorter, and in other respects an equally eligible line, may be found a little to the south of La Playa road.

Taking these quantities in connexion with the prices given in Lieutenant D.'s estimates, we have for the cost of the work as follows:

1st. For 14,850 cubic yards of excavation of channel, at $1 20 per yard	$17,820 00
2d. For 7,630 yards of embankment, at $1 20 per yard.	9,156 00
3d. For 2,180 yards of excavation for foundation, at $1 20 per yard	2,616 00
4th. For 140 running yards of bulkhead, at $33 per yard.	4,620 00
	34,212 00
5th. Add for unforeseen labor and materials, and for contingencies, 12 per cent	5,131 80
	39,343 80

As it is very probable that there may be objections to the plans now proposed, on the score of safety, economy, or of public or private interests or convenience, which do not present themselves to us, it is advisable to refer the subject to Lieutenant Derby for his views. If it is not out of our province to do so, we would advise the securing to the United States of the title to the land to be occupied by these works before they are undertaken, and the securing of the jurisdiction over the same, so as to protect the works against encroachments.

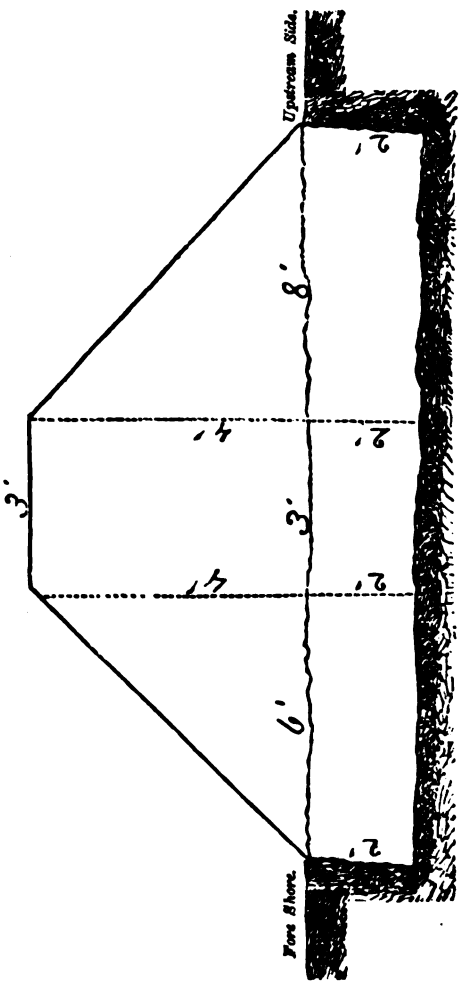
In conclusion, I should state that this report has not been formally laid before the board, although the outline of the plan proposed in it has been submitted and discussed and approved by it, and a report ordered to be drawn up, in conformity with the general project. With this explanation, it may be received as the report of the board.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,
Lt. Col. Top. Eng., President of the Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

Cross-section of proposed levee across the plane.



REPORT OF THE COLONEL OF ORDNANCE.

ORDNANCE OFFICE,
Washington, November 11, 1853.

SIR: I have the honor to submit the following report of the principal operations of the Ordnance department during the fiscal year ending 30th June, 1853.

The arrangement of the subjects is the same as that usually followed in the annual document, having under each head explanatory remarks, and such suggestions for the future management of the department as seem likely to add to its efficiency and conduce to the public interest.

FUNDS.

Amount undrawn from the treasury on the 1st July, 1852	$576,892 06
In hands of disbursing officers same date	97,019 54
Amount of appropriations for the fiscal year 1853, including the fixed annual appropriation for arming and equipping the militia	803,815 00
Received for damages to arms in hands of troops, and chargeable to them, and from all other sources not before mentioned	101,110 10
	1,578,836 70
Amount of expenditures during the year	1,007,587 09
Amount carried, at the treasury, to the surplus fund	53,094 10
Remaining in hands of disbursing officers	255,078 25
Remaining undrawn from the treasury	263,077 26
	1,578,836 70

The amounts expended from each appropriation are stated under their respective heads.

The disbursing officers of the department have all rendered their accounts, as prescribed in the ordnance regulations, and these accounts have been transmitted to the auditing officers, after careful examination in this office, and it affords me pleasure to say that no loss has been incurred by the government.

The estimates for the next fiscal year have been carefully made, and contain nothing but what is thought necessary for the public interest. Your particular attention is asked for the arsenals proposed for Texas, New Mexico, California, and Oregon. Large amounts of stores are being *collected at the* temporary ordnance depôts in the

States and Territories, where they are, from want of proper shelter and the means of repair, exposed to deterioration and to entire loss. The distance of these depôts from the Atlantic arsenals and magazines might make such loss a great national misfortune.

ARMAMENT OF FORTIFICATIONS.

Under this appropriation a number of guns of heavy calibre have been heretofore procured, and the number would have been much greater; but, as it is contemplated to change the proportions of the various calibres in our coast fortifications, it was deemed advisable to defer the procurement of these guns for the time. The difficulty of procuring suitable timber for the carriages of heavy guns, and the time required for seasoning, renders the delay in procuring the guns less important.

Contracts that were entered into for timber for 500 carriages for guns of the largest calibre have not been complied with, and it is apprehended that other means will have to be resorted to before the necessary supply can be obtained.

There has been expended under this appropriation during the year $20,968 96, and the principal results are the construction of—

5 32-pounder barbette carriages and their chasses.
30 24-pounder barbette carriages and their chasses.
6 32-pounder casemate carriages and one chassis.
13 24-pounder flank defence howitzer carriages, complete.
1 8-inch columbiad carriage and chassis.
25 garrison and casemate gins.

ORDNANCE, ORDNANCE STORES, AND SUPPLIES.

The operations under this head are principally in the purchase, fabrication, and supply of artillery for field, siege, and mountain batteries, with their carriages, forges, caissons, wagons, implements, harness, and ammunition; pistols, swords, and accoutrements of all kinds.

The expenditures under this head during the year have amounted to $171,162 67, and the result has been chiefly the procurement of—

7 12-pounder and 28 6-pounder bronze guns.
7 32-pounder and 6 12-pounder bronze howitzers.
30 12-pounder howitzers, mountain.
15 24-pounder and 10 12-pounder siege guns.
8 8-inch siege howitzers.
2 32-pounder guns, and 1 42-pounder casemate carriage, (experimental.)
3 12-pounder mountain howitzer carriages.
20 24-pounder and 10 18-pounder siege carriages.
151 Sharp's carbines; 1 Colt's pistol.
129 cannon balls of different calibres.
150 shells of different calibres.
541 spherical case-shot of different calibres.
960 infantry cartridge-boxes.

4,550 infantry cartridge-box belts.
5,579 infantry waist-belts.
5,228 bayonet-scabbards, with frogs.
1,000 rifle waist-belts.
1,865 cavalry sabre-belts.
720 artillery sabre-belts.
9,315 cap-pouches.
1,896 sword-knots.
500 carbine-slings and swivels.
350 carbine cartridge-boxes.
461 sword shoulder-belts.
4,287 waist belt-plates.
403,644 pounds of pig-lead.
1,781 rounds of ammunition for field service.
35,850 cartridges for small-arms.
3,362 cartridges for siege and garrison guns.
75,000 percussion-caps.
376,620 Maynard's primers.

Statement C, hereto annexed, exhibits the quantities and kinds of arms, ammunition, and other ordnance stores issued to the United States troops during the year.

NATIONAL ARMORIES.

The expenditures at the national armories during the year have been as follows:

	Harper's Ferry.	Springfield.	Total.
For the manufacture of arms, appendages, tools, &c., and purchase of materials for the same, including salaries and incidental expenses	$133,248 83	$168,256 03	$301,504 86
For repairs, improvements, and new machinery, including lands, buildings, dams, &c.	47,979 19	28,125 94	76,105 13
	181,228 02	196,381 97	377,609 99

There were fabricated at Harper's Ferry armory, during the year, 10,101 percussion muskets, and 2,762 percussion steel-barrel rifles, with 43,859 appendages, and 25,794 extra cones for the same; besides 49,830 cones, hammers, &c., for flint-lock arms, to be altered to percussion. At Springfield armory, 14,500 percussion muskets, 2,000 cadet muskets, and 500 musketoons, with 90,175 appendages, and 154,850 extra cones. The cost of the cadet muskets is charged to the appropriation for arming the militia, as they were made to meet calls from the States for arms of that description.

The fabrication of machinery, and amount of building operations and other permanent improvements which have been carried on during the year at *these armories, will be found* stated in detail in the reports of their

commanding officers, hereto annexed. The additions to buildings and machines have not been as great as in some former years. At Harper's Ferry the necessity for improvements was greatest, and the work there has latterly been urged forward with great despatch. At Springfield, the cause for renovation did not claim such immediate action; therefore, many desirable improvements, for which the means have been appropriated, have been very properly postponed till the plans can be well considered in all their possible prospects and relations, and the means for the accomplishment of such plans shall be sufficient, and render unnecessary the sacrifice of any part.

The contemplated improvements which have been delayed are principally in the erection of new shops, to replace those now in use, which, having been erected generally long before the practice of applying machinery to the manufacture of small-arms had become so universal, are consequently neither in their separate plans nor relative localities calculated to afford those advantages which, as a part of our important system of manufacture of small-arms, is required of them.

If employed to their reasonable capacity, the two armories can produce 35,000 or 40,000 muskets and 6,000 to 8,000 rifles annually. It is not deemed advisable, with the very considerable supply in our arsenals, to manufacture so extensively, as it would in the course of a few years make it necessary to suspend entirely the manufacture, shut up the shops, and discharge a large class of citizens from our employment, which yields a living to them and their families. It has been thought more advisable, after bringing our armories to a degree of perfection not exceeded (and hardly equalled) by any other establishments of the kind in the world, and giving them a capacity to meet almost any emergency, to gradually diminish their products until they reach a prudent minimum. With this end in view, this department reduced the estimates for the years ending June 30, 1853, 1854, and 1855, for fabrication at the armories, from $360,000 to $250,000. This amount is sufficient to give beneficial motion to the machinery and constant employment to as many workmen as may be wanted, without making unnecessary discharges, and at the same time make a proper increase to our stock of arms in depôt.

ARMING AND EQUIPPING THE MILITIA.

Agreeably to the act of 1808, arms have been apportioned, in accordance with the return last received, to all the States and Territories, except to the State of Iowa, to which, agreeably to act of Congress of March 3, 1853, arms were apportioned according to her representation in Congress.

If this mode of apportionment, or one founded upon the census, were adopted with regard to all the States and Territories, it would obviate many difficulties in the way of prompt apportionment to each of its proper quota.

The expenditures during the past year from this appropriation amount to $191,233 40; and the principal articles obtained on this account by purchase and fabrication, in addition to the cadet muskets *made at Springfield* armory, have been as follows:

4 6-pounder bronze guns.
1 6-pounder carriage.
1 prairie carriage.
4 caissons.
6,300 percussion rifles.
1,500 carbines.
2,998 pistols.
910 cavalry sabres.
3,132 infantry cartridge-boxes.
700 cartridge-box belts.
1,803 bayonet scabbards, with frogs.
3,500 infantry waist-belts.
200 gun-slings.
1,210 sabre-belts.
1,350 pairs of holsters.
1,741 sword knots.
780 pistol cartridge-boxes.
700 carbine cartridge-boxes.
400 carbine swivels.
200 sword shoulder-belts.
336 artillery sword-belts.

The apportionment of arms and supplies furnished to the militia during the year is shown by the annexed statements, marked A and B.

ARSENALS AND DEPOTS.

The expenditures under this head are for building and keeping in repair storehouses, workshops, quarters, magazines, walls, fences, wharves, and all other permanent improvements at these places; and the expenditures for the same during the year have been $90,647 09.

The whole number of arsenals and depôts is twenty-six. Four of these, viz: Watervliet, N. Y., Allegheny, Pa., Washington, D. C., and Fort Monroe arsenal, Va., are arsenals of construction as well as deposite, where are fabricated all ordnance supplies, except small-arms; and at one of the others fabrications and repairs have been carried on. At all the other arsenals, military stores pertaining to the department are kept in deposite. There are four depôts where stores are deposited and slight repairs made, viz: one at Liberty, Missouri, one at San Antonio, Texas, one at Fort Union, New Mexico, and one in Oregon. At the first of these only are there any buildings of a permanent character. The three others are much the most valuable as to location, and the means are included in my annual estimate for the year ending June 30, 1855, for the erection of permanent buildings. The necessity of having these arsenals and depôts in numerous places, and capable of affording facilities for easy distribution of supplies, is apparent.

Notwithstanding the wear and tear of buildings and machinery, and the issue of stores to the fortifications, to the troops, and to the States and Territories for arming the militia, there is almost always a small annual increase remaining.

The following table exhibits the money values remaining at armories, arsenals, and depôts, as shown by the annual inventories, on the 30th June last and 30th June, 1852, and the increase for the year:

	Lands, buildings, and other permanent improvements and fixed machinery.	Artillery and small-arms of every description, including gun-carriages, implements, accoutrements, projectiles, and ammunition.	Unwrought materials, tools, and parts of arms, carriages, implements, &c., including those in use in the workshops.	Total.
June 30, 1853.....	$4,968,428 06	$13,618,062 00	$1,510,739 54	$20,097,229 60
June 30, 1852.....	4,740,264 64	13,293,028 77	1,452,667 24	19,485,960 65
Increase.....	228,163 42	325,033 23	58,072 30	611,268 95

The Quartermaster General has expressed the opinion that travelling forges for the army, and wagons for the transportation of ordnance stores, hitherto provided by his department, and embraced in his annual estimates, should be furnished by the Ordnance department; and I recommend that the regulations be so altered as to make it the duty of the Ordnance department to provide these articles. This will enable us to use, advantageously for the public interest, labor and machinery sometimes out of employment, and to apply materials which are sometimes useless for the objects for which they were ordered.

For a more detailed account of the condition of and operations at the arsenals, reference is made to the reports from the inspector of arsenals and armories and from the commanding officers of the principal of these establishments, hereto appended.

I am, sir, very respectfully, your obedient servant,

H. K. CRAIG,
Colonel of Ordnance.

Hon. JEFFERSON DAVIS,
Secretary of War.

WASHINGTON, *November* 1, 1853.

SIR: Commencing, under your orders, in February last, I have subsequently made inspections of the following arsenals and armories, designated in your letters of instructions—the arsenal at Augusta, Georgia, having been just previously inspected by me—viz:

The Fort Monroe arsenal, Virginia.
The North Carolina arsenal, North Carolina.
The Charleston arsenal, South Carolina.
The Appalachicola arsenal, Florida.
The Mount Vernon arsenal, Alabama.

The Baton Rouge arsenal, Louisiana.
The Little Rock arsenal, Arkansas.
The Missouri depôt, Liberty, Missouri.
The St. Louis arsenal, Missouri.
The Detroit arsenal, Michigan.
The Allegheny arsenal, Pennsylvania.
The Pikesville arsenal, Maryland.
The Harper's Ferry armory, Virginia.
The Washington arsenal, District of Columbia.
The Watertown arsenal, Massachusetts.
The Kennebeck arsenal, Maine.
The Champlain arsenal, Vermont.
The Rome arsenal, New York.
The Watervliet arsenal, New York.
The Springfield armory, Massachusetts.
The New York arsenal, New York.
The Frankford arsenal, Pennsylvania.

From my detailed reports, which were forwarded to the department immediately after the completion of each inspection, the following remarks are deduced, and they are intended to exhibit concisely the general means, operations, and condition of the several establishments, the particulars of which are represented in the individual inspection reports:

Among the objects demanding particular examination, were the annual estimates of funds for permanent improvements at the several arsenals and armories. These estimates, from nineteen of them, amount to over one hundred and thirty-eight thousand dollars—the Springfield armory and the Washington arsenal making none; the former having sufficient unexpended funds, and the latter omitting its estimate in consequence, mainly, of having no suitable site upon which to erect buildings that are highly necessary.

The importance of this arsenal makes it quite desirable that the grounds and buildings of the District penitentiary should be procured, so that its limits might be extended farther north. It is now confined by this prison to its present limited boundaries. I have strongly recommended that measures should be taken, in connexion with the District authorities, to effect a removal of the penitentiary, or its transfer to the department, for the purpose of extending the arsenal grounds and adding buildings so urgently demanded by the public interests.

In the examination of the several estimates, I have endeavored to modify them, conformably with your instructions, so as to combine economy with an efficient system of operations; and, with these objects in view, I have in several instances disapproved of proposed expenditures, and in others recommended such changes in the improvements as it appeared to me might render them more useful than as originally designed.

The employment of the enlisted and hired men, and their number—whether unnecessarily large for the performance of the duties in which they were engaged, and for the safety and preservation of the public property—has likewise been a subject for examination and inquiry, and I *have invariably found efficiency* in the performance of duty, and

degree of industry which is the best evidence that the number employed does not exceed that required to execute, by constant employment, the business of the several arsenals and armories. Indeed, I have recommended at several arsenals, where property of great value is in store, an increase of the enlisted force, so as to furnish a more efficient protection.

The arrangement of the ordnance and ordnance stores at the arsenals and armories conforms, as nearly as practicable, to the regulations; and, with scarcely an exception, great care and attention have been bestowed upon the public property with a view to its preservation and security.

The condition of the powder magazines, and storehouses for small-arms, nitre, and other valuable property, the most liable to injury from exposure to dampness, has commanded my particular attention; and, with the few exceptions stated in my inspection reports, all such property is safely and properly preserved.

A particular examination of the books and papers required by regulations to be kept at the ordnance stations exhibits a very complete system of accountability for all the public property—at present amounting to over $20,000,000—for the various mechanical operations, the expenditure and application of the public money, and the cost of the articles produced. This system is as nearly perfect as practicable, especially at the two national armories.

The laws, orders, and regulations for the government of the arsenals and armories, have been, so far as my observation and inquiries could ascertain, fully and faithfully executed.

At the armories and arsenals of construction, the working patterns and gauges were compared with the original forms and dimensions as determined by the ordnance board, and approved by the Secretary of War; and such deviations, caused generally by wear or shrinkage, as were observed, were noted for correction.

The uniformity produced by the present system, in the constructions at the several arsenals and at the armories, has been productive of great convenience and economy, and of increased efficiency in service. These important advantages can be preserved only by a strict adherence to the requirements of the ninth article of the Ordnance Regulations.

There remains at several arsenals a considerable number of old and obsolete iron cannon, of very doubtful quality. They are of dimensions and model unsuited to the present pattern carriages, and, in every respect, are so inferior to the guns of the improved patterns of the present day, that they could never be used with any degree of confidence in their safety or efficiency. With some exceptions, I have included such guns in the lists of stores condemned, and recommended their sale, deeming it desirable to dispose of all property that is not available and reliable for the public service.

To the general good condition of the armories and arsenals there is scarcely an exception. The annual assignment to each of moderate amounts of funds for repairs and minor improvements, and the attention of the officers in charge to the preservation and improvement of the *buildings, &c., by* a judicious application of the means furnished, serve *to prevent decay or* other deterioration.

The operations at the arsenals are necessarily limited—a consequence, in some degree, of the accumulation of materiel during the late war—although the return to the arsenals of large quantities of valuable property which had been prepared for, and much of it used in, Mexico, has caused considerable labor and expenditure in its repair and restoration.

The capabilities of the arsenals of construction are, undoubtedly, quite sufficient, or would become so by the additions that have been recommended, for the most extended operation, which, under any circumstances, could be required from the Ordnance department; and the large supplies of timber, at all times on hand, and other materials that are securely preserved in store, place them in a condition to comply with promptitude with large and even unexpected requisitions.

The management of these arsenals and armories could not, in my opinion, be improved. Every necessary attention to the increase and improvement of their means of operation, to their police, preservation, good order and respectability, is evidently given by the officers placed in charge of, and those on duty at them, and the results of the system of superintendence and command fully justify these commendations, founded on observations during the inspections of the past year.

I am, sir, very respectfully, your obedient servant,

R. L. BAKER,
Lieut. Col. of Ordnance,
Inspector of Armories and Arsenals.

Col. H. K. CRAIG,
Ordnance Department.

A.

Apportoinment of arms to the militia for the year 1852, *under the act of* 1808, *for arming and equipping the whole body of the militia.*

States and Territories.	For what year.	Number of militia.	Number of arms apportioned in muskets.
Maine	1851	62,533	397
New Hampshire	1852	31,440	199 $\frac{5}{7}$
Massachusetts	1852	122,343	776
Vermont	1843	23,915	152
Rhode Island	1851	14,443	92
Connecticut	1851	51,649	328
New York	1852	289,306	1,836
New Jersey	1852	81,984	520
Pennsylvania	1847	276,070	1,752
Delaware	1827	9,229	59
Maryland	1838	46,864	297
Virginia	1851	125,128	794
North Carolina	1845	79,448	504
South Carolina	1848	55,209	350
Georgia	1850	78,699	499
Florida	1845	12,122	77
Alabama	1851	76,662	486
Louisiana	1851	53,179	337
Mississippi	1838	45,385	288
Tennessee	1840	71,252	452
Kentucky	1852	88,979	565
Ohio	1845	176,455	1,120
Michigan	1850	63,938	406
Indiana	1832	53,913	342
Illinois	1851	170,359	1,081
Wisconsin	1848	32,203	204
Iowa	(No return.)		
Missouri	1844	61,000	387
Arkansas	1843	17,137	109
Texas	1847	19,766	125
California	(No return.)		
Minnesota Territory	1851	2,003	13
Oregon ..... do	(No return.)		
Utah ..... do	1851	2,575	16
New Mexico .. do	(No return.)		
District of Columbia	1852	8,201	52
		2,303,389	14,615 $\frac{5}{7}$

H. K. CRAIG, *Colonel of Ordnance.*

ORDNANCE OFFICE, *Washington, November* 11, 1853.

B.

Statement of the ordnance and ordnance stores distributed to the militia under the act of April, 1808, from the 1st July, 1852, to the 30th June, 1853.

28 6-pounder bronze guns.
1 12-pounder bronze mountain howitzer.
1 10-inch siege mortar.
25 carriages for field artillery, with implements and equipments.
1 10-inch mortar bed, with implements and equipments.
16 caissons, with tools and spare parts.
39 sets of artillery harness for two wheel-horses.
37 sets of artillery harness for two lead-horses.
52 cannon locks.
4 worms and staves.
30 watering buckets.
33 tarpaulins.
64 bricoles.
12 drag-ropes.
24 thumb-stalls.
24 priming wires.
4 gunners' gimlets.
6 tangent scales.
6 rammers and sponges.
8 tar buckets.
3,329 muskets and appendages.
1,190 cadets' muskets and appendages.
2,005 rifles and appendages.
32 carbines and appendages.
1,750 percussion pistols and appendages.
451 Colt's pistols and appendages.
1,340 cavalry sabres.
250 artillery sabres.
830 artillery swords.
264 swords for non-commissioned officers and musicians.
5,220 sets of accoutrements for infantry, riflemen, and cavalry.
5,190 cartridge-boxes for infantry, riflemen, and cavalry.
3,770 infantry cartridge-box belts.
3,850 waist-belts for infantry and riflemen.
3,940 bayonet scabbards for infantry.
1,450 gun-slings.
1,000 infantry cartridge-box belt plates.
2,500 brushes and picks.
500 flask and pouch belts.
1,150 sabre and sword belts for cavalry and artillery.
7,440 cap pouches.
180 bayonet scabbard belts.
500 copper rifle flasks.
125 pairs of holsters.
300 appendages for rifles.
1,000 *hammers for muskets.*

1,000 screw-drivers for muskets.
1,000 tumblers and screws for muskets.
51 bullet-moulds.
2,000 cones.
72,000 percussion caps.
5,000 cannon percussion primers.
4 ammunition chests.

H. K. CRAIG, *Colonel Ordnance.*

ORDNANCE OFFICE, *Washington, Nov.* 11, 1853.

C.

Ordnance and ordnance stores issued to the army and to the several military posts for the year ending June 30, 1853.

10 6-pounder bronze guns.
5 12-pounder bronze howitzers.
8 12-pounder mountain howitzers.
1 24-pounder siege gun.
1 10-inch siege mortar.
1 42-pounder casemate carriage.
2 24-pounder siege carriages.
24 carriages for field artillery, with implements.
8 caissons, with tools and spare parts.
2 battery wagons, with tools and stores.
2 travelling forges, with tools and stores.
9 sling carts, with appendages.
20 sets of artillery harness for four horses.
694 cannon balls of different calibres.
175 shells of different calibres.
3,927 rounds of ammunition for field service.
220 rounds of ammunition for siege and garrison guns.
2,225 muskets and appendages.
93 musketoons and appendages.
46 Hall's carbines and appendages.
140 Sharp's carbines and appendages.
60 rifles and appendages.
78 percussion pistols and appendages.
814 Colt's pistols and appendages.
180 sabres for cavalry and artillery.
268 swords for non-commissioned officers and musicians.
2,507 sets of infantry accoutrements.
1,207 infantry cartridge-boxes.
7,202 infantry cartridge-box belts.
8,866 waist-belts.
7,180 infantry bayonet scabbards.
887 sword-belts for non-commissioned officers and musicians.
3,588 sabre-belts for cavalry and artillery.

2,700 sabre-knots.
2,580 carbine slings and swivels.
225 carbine cartridge-boxes.
700 rifle waist-belts.
656,430 cartridges for small-arms.
332,000 percussion caps for small-arms.
98,000 Maynard's primers.
20,550 pounds gunpowder.
2,564 pounds paint.
459 gallons of oil.
10,000 pounds pig-lead.

H. K. CRAIG, *Colonel Ordnance.*

ORDNANCE OFFICE, *Washington, Nov.* 11, 1853.

Statement of the principal operations at the armories and arsenals during the year ending on 30th June, 1853.

SPRINGFIELD ARMORY, COMMANDED BY BREVET LIEUTENANT COLONEL J. W. RIPLEY.

The principal operations at this armory during the year were as follows:

Fabricated.

14,500 percussion muskets.
2,000 percussion cadet muskets.
500 percussion musketoons, artillery.
154,850 cones, extra.
4,120 hammers for percussioning flint muskets.
83,355 components of musket.
100 arm-chests.
24 packing-boxes.

Machines fabricated and in progress.

2 milling machines, complete.
2 stocking machines, complete.
2 water-wheels, complete.
9 tilt-hammers, in progress.
1 machine for counter-boring and cutting off barrels, in progress.
1 shaving-machine, (as last year,) in progress.
1 water-wheel, in progress.

The cleaning and oiling of the remainder of muskets in store has been continued and completed during the year past.

The painting of the public buildings has been continued and completed during the year past.

The grading, terracing, and turfing of the armory grounds on the west of the new arsenal, and *north* of the storehouse, have been finished.

That portion of the iron fence which extends along the line of State street, from Byers street to Franklin square, has been constructed, and the foundation for the same has been laid nearly the whole length of the western boundary line of the public grounds. A side-walk, terraced and paved with brick, has also been laid from Byers street to the main entrance to the grounds on State street.

HARPER'S FERRY ARMORY, COMMANDED BY BREVET COLONEL BENJAMIN HUGER.

The principal operations at this armory during the year were as follows:

Musket factory.—Arms and appendages fabricated.

10,101 percussion muskets, complete.
23,026 cones, extra.
38,794 components of musket.
15,535 cones for percussioning flint-lock muskets.
24,295 screw-drivers, hammers, and wipers for flint-lock muskets.

Machinery fabricated and in progress.

92 feet 10 inches counter-line of shafting, first floor boring-mill.
1 machine for milling and chambering barrels.
1 machine for first-milling and boring bayonets.
1 machine for milling rod-hole for upper band.
1 tilt-hammer for bending barrel plate.
2 cast-iron frames for large grindstones.
2 portable furnaces.
30 cast-iron forges, complete.
1 set of stocks for 8 machines for cutting barrels.
1 tilt-hammer for forging cones, screws, &c., in progress.
1 drilling-machine, large, purchased.
1 drilling-machine, 4 spindles, purchased.

Extensive improvements have been made to many machines in current service, and heavy repairs have also been made to several main lines of shafting, incidental, for the most part, to their original defective construction.

Buildings.

New smith's and forging shop has been extensively repaired. The floor has been removed, and the interior filled up with earth, and paved with brick and flagging; new cast-iron forges, with sheet-iron stacks, put in; wind and water pipes laid complete, and new anvil blocks, placed on cast-iron chairs, set in stone foundations. A ventilator has been put on the whole length of the building, 216 feet; the *roof altered* and repaired; the foreman's office removed from centre *of building*, and a new one made in the end.

New floors have been laid in the boring-mill and in the bell-shop; the excavation under the floors deepened some three feet, and the bottom graded and arranged to carry off the water wasting from machines, &c., into the race-ways.

Two furnaces built, and six cast-iron forges and stacks put up in tempering-shop, with wind and water pipes laid complete.

Floor paved with brick, and 20 square yards of flagging covering wind and water pipes between this building and the forging-shop.

In tilt-hammer shop, for foundations and fixtures for tilt-hammers, there has been laid 29 perches of stone masonry, 245 by 2 feet, face-stone dressed, and 167 yards flagging.

A cistern has been built, capable of containing 25,000 gallons of water, for use of shops, &c. An ice-house has been built, 20 feet square by 13 feet high.

Many of the buildings, machines, &c., painted.

Grounds.

The dam over the Potomac, which was much injured by the flood of 1852, has been repaired, 1,083 perches of stone wall laid, and 916 cubic yards of filling. Stone forebay at bell-shop repaired, 1,134 cubic feet of earth excavated, and paved, and grouted with cement. Culvert under bell-shop flagged over with 56 square yards of flagging, and cross-walls under floors to support joists, &c.

A grouted stone wall built on the northeast side of canal, near new rolling-mill, 248 feet long, 6 feet high by 4 feet thick; and on the opposite side of the canal a dry wall, 255 feet long, 6 feet high, and 2½ feet thick, to sustain that bank of the canal. These walls are complete, except the coping.

The sluice-way of canal (near old tilt-shop) has been repaired. 48 perches grouted stone-masonry, 50 perches dry wall, and 68 square yards of paving, 2 feet deep in this repair, together with a new sluice-gate with cast-iron gearing, complete, made and put in place. Extensive repairs and improvements have been made to the canal by cleaning out sand-bars and obstructions which have heretofore impeded the passage of water at low stages.

To fill up the open spaces under the Baltimore and Ohio railroad, 51 feet dry stone wall built—19 feet high and 4 thick—6,500 cubic yards of filling, making coal-bins and spaces under the trestle-work of the road.

To carry off water from foundations of new arsenal, the road above has been graded and drains constructed; 419 feet stone wall built, averaging 7 feet high by 4 thick.

The old tilt-hammer shop has been pulled down, and the wheels, &c., removed; the wheel-pits, penstocks, and forebays filled up; and all made ready for building new rolling-mill on its foundations.

About 1,300 feet of 8-inch cast-iron pipe, with 9 hydrants attached, have been laid between the shops for conducting water (to extinguish fires) from the large force-pump to be attached to one of the water-wheels. This improvement will be completed the present summer.

The roads *in armory yard* graded and macadamized; grass plats

filled up, graded, and sown with grass-seed; six cast-iron lamp-posts put up and furnished with lamps complete.

Rifle factory.—Arms and appendages fabricated.

2,762 percussion rifles.
7,863 components.

Machinery fabricated and in progress.

1 force-pump for supplying grindstones with water.
1 drilling-machine—3 spindles.
2 cast-iron frames for large grindstones.
1 set of stocks for 6 machines for cutting barrels.
1 machine for cutting stocks to length, completed.
1 drilling-machine—4 spindles—purchased.
2 hand turning-lathes, purchased.

Buildings.

The new machine-shop, reported last year as "stone foundation completed, ready for the brick-work," has been finished.

One turbine wheel placed in wheel-pit, of cut stone; a new stone and cast-iron forebay put in; culvert made to conduct water from this wheel, and other culverts repaired; storehouse repaired; outside stairs removed and new stairs put up inside.

Grounds.

A dry stone wall has been built all along the basin on the opposite side of the canal, to the works, two sections on each side of the bridge, to raise the edge of the canal, and so grade the road as to draw off the water from the road and hill-side, which has heretofore washed large deposites of earth into the basin: for this purpose 409 feet of dry wall, nearly 6 feet high by 3 wide, have been built; 700 cubic yards filling put in.

A dry wall, 224 feet long, 6½ feet high, and 3 feet thick, has been built along the southeast side of the canal, adjoining the finishing-shop and across the opening of old sluice-way, which has been filled up. This completes the walling-in of the whole basin. The accumulated deposites from this basin were excavated and removed, amounting to near 2,000 cubic yards.

About 300 feet of 8-inch cast-iron pipe, with 3 hydrants attached, have been laid in front of the shops for conveying water (in case of fire) from the large force-pump designed to be attached to water-wheel of machine-shop. This improvement will be completed during the present season.

Two cast-iron lamp-posts put up, and furnished with lanterns complete.

Experiments with new arms.

Nine experimental rifles and appendages have been constructed, with various modifications of the twist of the grooves, both regular and accelerating.

About 3,000 rounds of ammunition prepared for target practice.

Trials made with several different guns, and the "à la tige" bullet, (25 rounds—the lowest number from which an average was taken,) at distances from target of..... 200, 300, 400, 500, and 600 yards, resulted in a mean absolute variation of..... 10, 19, 27, 32, and 45 inches from the centre of the target.

The few experiments made with the Minié bullet were not satisfactory. A modification in its construction has been contrived here and tested at the short range of 200 yards: average of mean absolute variation from centre of the target 11 inches.

Further experiments with this bullet were suspended on account of the unfavorableness of the season, but as soon as practicable will be again resumed at other and longer ranges. As soon as these experiments are completed, a detailed report will be made.

WATERVLIET ARSENAL, COMMANDED BY MAJOR JOHN SYMINGTON.

The principal operations at this post during the year were as follows:

1. The required shelving, and forms for arranging accoutrements and components for small-arms, put up in brick arsenal, "A."
2. New flag-staff made and set up, with earthen terrace around it sufficiently large to accommodate a battery of four mounted field guns.
3. Permanent bins, made with paved floors, for anthracite and bituminous coals.
4. A cast-iron table, fitted with tinner's furnace for brazing and soldering, with necessary blasts, put up in tinner's shop, No. 6.
5. 6,212 superficial feet of stone flagging and 408 lineal feet of stone gutter laid round arsenal yard.
6. The decayed wooden conduit and penstocks conveying water from the basin to the water-wheels of the smiths' and carriage shops taken up, and replaced with 176 lineal feet of 34-inch diameter iron pipe, and 65 feet of 24-inch diameter iron pipe; also, new penstocks of iron for each wheel, 12 feet long, 3½ feet wide, by 3¼ feet deep, with the requisite geared gates, for feeding.
7. 330 yards of farm wire fencing, with necessary gates, put up.
8. Old magazine, in rear of stone arsenal F, taken down, and the materials removed.
9. 114,000 feet of gun-carriage timber received, and piled in order in timber storehouses.
10. Repairs made to buildings, &c.

Brick arsenal, "A."—Wood-work and interior walls painted and whitened.

Offices, "E"—A partition, with door, put up and painted; force-pump in lumber-yard repaired; basin at workshops cleaned out, and deposite removed across the canal.

Stone arsenal, "F."—Tower roof repaired and painted.

North stone quarters, "G."—399½ square yards of concrete laid in basement floor; 347½ lineal yards of blind drain cut in the rock in the basement; the well in basement recurbed and covered with wire ventilator; permanent shelving put up, and rain-water spouts conducting to reservoir repaired.

Barracks, "V."—Tin roof painted, and sewer to convey water from pump and sink renewed, and new cesspool made.

Paint shop and harness shop, No. 3.—Tin roof of gallery painted; 6 windows opened in basement cellar for the better ventilation; such portion of the floor found decayed removed, and a flight of stairs to harness room fitted up.

Carriage shop, No. 4.—48½ squares of new slating put on roof, and tin gutter repaired.

Smith's shop, No. 5.—Partition made, and iron roof painted.

Machine shop, No. 6.—New tin gutter made and put up, and all other necessary repairs to buildings, machinery, tools, roads, &c., made.

The principal stores fabricated, and work executed, consist of the following:

Gun carriages.

4 caissons, field.
1 6-pounder gun carriage.
3 3-pounder mountain howitzer carriages.
1 prairie carriage.
20 24-pounder siege carriages.
10 18-pounder do.
1 10-inch mortar platform.
1 42-pounder casemate chassis.
1 42-pounder casemate carriage.
6 32-pounder casemate carriages.
24 32-pounder casemate chasses.
10 rampart gins, with blocks, falls, handspikes, &c., complete.
3 sling-carts, with chains, &c., complete.
100 barbette pintles and wedges.
26 ammunition chests, mountain howitzer.
13 spare poles, field.
1 battery wagon stock.
6 spare wheels, field.

Artillery implements and equipments.

1 sponge-bucket, iron.
1 tar-bucket, iron.
132 water-buckets, leather.
11 breech-sights for garrison guns.
12 gunner's levels.
18 tangent scales, 6-pounder.

12 drag-ropes.
50 gunner's haversacks.
52 tube-pouches.
52 tow-hooks.
110 tarpaulins, 12 × 15 feet.
10 do 10 × 6 do.
9 do 5 × 5 do.
8 tompions.
70 lanyards, for friction primers.
22 lock covers.
21 portfire cutters.
25 sponge covers.
25 vent covers.
3 seats for 6-pounder pendulum hausses.
72 blocks—whole, half, and quarter chocks—for mechanical manœuvres.
17 rollers, &c., with skids, for mechanical manœuvres.
32 drag washers.
1 6-pounder worm and staff.
10 trail handspikes.
1 linstock.
16 handspikes for mechanical manœuvres.
40 belly-bands, for artillery harness.
30 halters, do.
160 trace-loops, do.
112 leg-guards, do.
65 hame-straps, do.
2 breast-straps, do.
50 nose-bags.
10 shot and shell gauges, different calibres.
1 trace rope.

Ammunition.

216 rounds of ammunition for 6-p'der gun and mountain howitzer.
356 cannon cartridges, various calibres.
45 24-pounder cartridge bags.
61 cannon-wads, 8-inch and 12-pounder.
100 brass fuze-plugs.
28 fuze receivers.
2 fuze wrenches.
100 paper fuzes.
150 signal rockets.
600 musket-ball cartridges.
37,720 musket blank-cartridges.
9,600 musketoon do.

Miscellaneous.

425 pounds olive paint.
108 pounds *black paint.*

15 pickaxes.
3 boxes fuze composition.
1 bedstead, iron, double.
2 bedsteads, iron, single.
200 canisters for proving-powder.
7 corn sacks.
3 formers, laboratory.
3 drift moulds.
3 wad moulds.
2 graduating machines.
2 punches.
4 rakes, garden.
1 screw-driver.
6 shovels.
4 arm chests.
219 packing boxes.
124 links.
4,418 cap pouches.
58 sets harness altered from *lead* to wheel.
1,000 muskets arranged for bayonet exercise.
30 cadet muskets browned.
458,000 musket cartridges altered from flint to percussion.

ALLEGHENY ARSENAL, COMMANDED BY MAJOR W. H. BELL.

The principal operations at this post during the year were—

Articles fabricated.

112 leather watering-buckets.
11 fuze-reamers.
57 gunners' gimlets.
88 gunners' haversacks.
11 gunners' punches.
11 cannon-lock covers.
40 nose-bags.
11 friction-primer lanyards.
11 priming wires.
68 prolonges.
18 sponge covers.
59 tangent scales, assorted.
158 thumbstalls.
18 tow-hooks.
39 fuze or tube pouches.
462 infantry cartridge boxes.
8,168 infantry belts.
10,080 infantry plates.
5,685 bayonet scabbards.
200 gun-slings.
50 musket bullet-moulds.

3,160 cap pouches and cone picks.
1,252 cavalry and artillery belts.
1,367 non-commissioned officers' belt-plates.
250 pairs of holsters.
1,757 soft-leather caps and sabre knots.
4,773 sabre and sword belts, slings, plates, and pouches.
3,459 cannon cartridges, different calibres.
3,513 cartridge bags, sabots, and wads.
1 hose carriage, complete.
6 ammunition and coal boxes.
6 wheelbarrows.
32 clamps, drifts, dies, and punches.
17 moulders' flasks.
15 cannon-cartridge gauges.
64 tools, various.

Miscellaneous work.

2,299 pistols altered from flint to percussion.
268,800 rifle cartridges altered from flint to percussion.
1,910 accoutrement-plates repaired.
9,250 muskets cleaned, oiled, and packed in boxes.
609 loads of earth and gravel hauled and used in grading grounds and walks.
142 sets harness cleaned, oiled, and repacked.
150 iron cannon cleaned, oiled, and lackered.
610 square yards paved gutters made.

Lightning-conductors made and put up on new steam-engine house.

The quarters, barracks, shops, stables, gas and water works, machinery, &c., kept in order.

A new steam-engine received and fixed on a permanent stone foundation 16 feet long, 11 feet wide, and 8 feet deep.

A well for supplying the engine with water, 36 feet deep and 5 feet diameter, dug, walled, and curbed.

The walls, to the height of 11½ feet, and all the bottom of No. 2 reservoir, which is 52 feet long and 15½ feet wide, lined with brick, and plastered with hydraulic cement.

924 square feet of flooring, ceiling, and partitions put in the clock-room in the arsenal tower.

480 square feet of No. 4 timber-shed partitioned off, and a double floor laid in it, for a coal-house.

The old brass, brazier's and lead furnaces torn down and new ones built in their stead, and the brass foundry thoroughly repaired.

The old accoutrement and tinner's shops repaired and fitted up for an armory, and the old armory changed into an accoutrement shop.

250 lineal yards of board-fence taken down, renewed, and rebuilt.

1,075 barrels of cannon-powder proved, &c.

4 heavy cannon fired 5,391 times, in experimental firings to test their strength, and bursted.

WASHINGTON ARSENAL, COMMANDED BY BREVET MAJOR A. MORDECAI.

No permanent improvements of any importance, nor any material additions or alterations in machinery, have been made at the arsenal during the last year.

The principal articles fabricated in the work-shops during the year are as follows:

31 32-pounder barbette gun carriages.
30 24-pounder barbette chasses.
8 casemate gins.
8 garrison gins.
8 field and siege gins.
10 caissons.
10 sling-carts, large.
494 rounds of fixed ammunition for field service.
369,620 Maynard percussion primers.
900,000 percussion caps for small-arms.
23,000 rifle-ball and blank cartridges.
100 halters for artillery harness.
50 nose-bags.
50 fencing bayonets.
726 cap pouches.
64,120 muskets cleaned and placed in racks.

FORT MONROE ARSENAL, COMMANDED BY BREVET MAJOR G. D. RAMSAY.

Summary statement of principal operations at this arsenal during the year, viz:

Gun-carriage shed, 76 by 27 feet, erected.
1,410 superficial feet of wharf built.
Cistern, to contain 4,663 gallons of water, constructed.
Extensive repairs of public storehouses and quarters.
800 yards of plank-road, for the transportation of heavy guns to experimental battery, constructed.
Three suspension frames for heavy guns erected at experimental battery.
12,087 rounds fired in experiments with test-guns.

Experiments with Böttcher's fuze.

February 16, 1853.—8-inch spherical case-shot, with 3½ lbs. of sulphur and 2 ozs. bursting charge. Target of 3-inch plank, 20 by 14 feet, at 1,420 yards.

From Columbiad—

No.	Charge.	Elevation.	Fuze.	Remarks.
1	8 lbs.	5°	5″	Burst high over target.
2	8 lbs.	4° 20″	5″	Burst beyond target.
3	8 lbs.	4° 20″	5″	Burst in front, putting 81 balls and fragments into it; the balls, in most cases, passing through.

From 8-inch siege howitzer—

1	4 lbs.	6°	5″	Burst at about 300 to 500 yards in front of target.
2	4 lbs.	5°	5″	Burst at about the same distance. Of these 2 shells, 12 balls attained the target—2 of the 12 penetrating to the depth of ¾ of an inch, ½ imbedded, the remainder merely impressions.

Remarks.

No spherical case-shot burst in this day's firing. The fuzes burned with apparent uniformity. The balls picked up on the beach in front of the target, where they had struck in the water or on the sand, retained their sphericity entirely.

These came from the 8-inch siege. The balls found behind the target, and which had probably passed over it, were flattened on one side, in a degree—probably the surface first impinging on the sand—which might be expected from their great velocity.

April 26, 1853.

From 8-inch siege howitzer, 8-inch spherical case—

No.	Charge.	Elevation.	Fuze.	Remarks.
1	4 lbs.	6°	5″	Burst opposite a flag, about 1,000 yards, 35 to 40 feet in the air.
2	4 lbs.	6°	5″	Burst at about 900 to 925 yards, close to water.

8-inch spherical case, from 8-inch seacoast howitzer—target 1,500 yards:

Date, 1853.	No.	Projectiles.	Charge.	Fuze.	Elevation.	Range.	Remarks.
						Yards.	
April 28	1	Empty shell	8 lbs.	5″	2°	1,200	Fired to obtain range.
April 28	2	Spher'l case	8 lbs.	5″	3¾°	1,490	Carriage dismounted by recoil.
April 29	1	Spher'l case	6 lbs.	5″	4¾°	1,350	
April 29	2	Spher'l case	6 lbs.	5″	4¾°	1,350	
April 29	3	Spher'l case	6 lbs.	5″	4¾°	.....	Burst about 200 yards in front of gun.
April 29	4	Spher'l case	6 lbs.	5″	4¾°	1,450	
April 29	5	Spher'l case	6 lbs.	5″	4¾°	.....	Burst 270 yards from target.

Total hits from 2 days' firing, about from 125 to 150; the target of 12 feet wide and 13 or 14 feet high, of 3-inch yellow pine. The depth of penetration varies from mere impressions to three-fourths of an inch. The elevation of the gun above the target about 30 or 33 feet.

Experiments have been made to test the adaptation of an elevating screw to the 10-inch seacoast mortar; the results, thus far very satisfactory, are not reported, as further trials are in progress.

Experiments have also been made with a 24-pounder rifled gun; these, however, have been interrupted by more pressing duties, and it is therefore not deemed worth while to give partial results.

The following exhibits the principal in-door operations of the workshops during the same period:

Fabricated.

1 12-pounder truck carriage, for proving guns.
14 24-pounder howitzer casemate carriages—flank defence.
7 32-pounder barbette carriages.
2 24-pounder barbette carriages.
122 tube pouches.
114 sets iron work for gun-carriages.
5 penthouses.
20 casemate carriages, supplied with elevating screws and eccentric rollers.
13,000 rounds of ammunition.

In addition to the foregoing, a great deal of heavy work has been *done in transporting* guns—columbiads, 32 and 24-pounders—shot,

shells, &c., from the gun yard to and from the experimental battery on the beach, fully three-fourths of a mile; as also re-arranging the timber sheds.

The ordnance grounds have been improved and embellished, and all things pertaining to the department kept in a high state of police.

The average force employed at the arsenal has been about thirty mechanics and laborers and nine enlisted men.

WATERTOWN ARSENAL, COMMANDED BY MAJOR EDWARD HARDING.

The principal operations at this arsenal, during the year, have been as follows:

1. *Permanent improvements.*

One brick coal-house, 45 by 23 feet, one story high, slate roof, erected.

The old carpenters' shop partially taken down and converted into a new office, 65 by 22 feet, two stories high.

Roof of north arsenal stripped and re-slated.

Two brick wells, 42 feet deep, made.

1,572 feet of wooden fence put up.

Officers' quarters, barracks, and shops repaired and kept in order.

2. *Articles fabricated.*

1 8-inch gun-carriage, on traversing platform.
1 8-inch gun-carriage (model, one-quarter size.)
64 cannon cartridges.
2,883 cartridge-bags, wads, tompions, and sabots.
1,647 blank cartridges for small-arms.
308 handspikes, for field-carriages.
64 implements, various, for mechanical manœuvres.
675 pounds paint and putty.
194 feet copper conductors.
65 door and window-frames, with doors and sash for the same.
Various articles forged, such as saddle-irons, dog-irons, hooks and staples, horse-shoes, nails, &c.

3. *Other work done.*

6,027 muskets, rifles, and pistols, belonging to the navy, altered from flint to percussion.
14,379 muskets, rifles, musketoons, and carbines, cleaned, oiled and put in racks.
400 elevating screws, axle-arms, &c., for barbette carriages, cleaned and oiled.
834 feet of fence and water pipe repaired.
4,675 feet of trench, excavated.
41,350 feet *pine lumber moved and stored.*

55,688 feet oak timber moved and piled in west storehouse.
9,140 pieces carriage timber moved and piled in west storehouse.
2,450 loads of top soil, stone, gravel, &c., hauled for grading and improving grounds.

In addition to the foregoing, the gun-carriages at Forts Trumbull and Griswold have been painted; with other jobs, such as improvement of public grounds, police, &c., and in receiving and issuing stores.

ST. LOUIS ARSENAL, COMMANDED BY CAPTAIN R. H. K. WHITELEY.

The principal operations at this arsenal during the year have been as follows:

1. *Permanent improvements.*

Since the last report, the following public works at this post have been nearly completed, up to the 30th June, 1853.

Carpenters' shop.—This building is forty-two feet front and rear, and seventy feet long; two and a half stories high; built of brick; roof covered with iron, and iron window sash and shutters.

Timber-shed.—This building is thirty feet wide, one hundred and ninety-two and a half feet long, one story high, end-wall built of brick; brick piers, fifteen inches square, on each side; slat siding six inches wide, and placed three inches apart on each side of the timber built into the brick piers to receive same.

Enclosing wall to powder magazine.—This wall is built of stone, one hundred and one by one hundred and seventy-three feet, and nine feet high, with four corner-piers and one gateway of cut stone; 816 panels of fence, eight and a half feet high, eight feet wide, erected round and on magazine lot; and six piers of cut stone built for gates, and three pair of double gates made and hung, complete.

2,187 lineal feet of fencing, five feet high, erected round lot in rear of shops, garden, and soldiers' quarters, and whitewashed.

2. *Work done.*

15,538 muskets, rifles and pistols, altered from flint to percussion.
96,420 cartridges for small-arms, altered from flint to percussion.
842 shot and shells fixed.
23 field-carriages, caissons, &c., repaired.
1,142 packing boxes fabricated and repaired.
476 sets artillery harness cleaned and oiled.
12,594 muskets, rifles, carbines and pistols, cleaned, oiled and re-boxed.
2,838 sabres and swords cleaned, oiled and re-boxed.
34,420 6 and 12-pounder shot overhauled and gauged.
1,767 barrels powder, 1,071 Hale's rockets, 72,979 fuzes, 1,329 boxes and 141 barrels powder ammunition, moved and stored in new magazine at Jefferson Barracks, and in magazine south of the arsenal.

52 squares of galvanized iron roof on artillery arsenal repaired.
7 squares of slate roof on small magazine taken off and repaired complete.
Public buildings repaired and improved.

FRANKFORD ARSENAL, COMMANDED BY BREVET MAJOR P. V. HAGNER.

The buildings in progress at the date of the last annual report were soon thereafter completed, and have since been used as designed.

All the nitre at the post, over 2,000,000 pounds, has been transferred to the nitre storehouse, the barrels and boxes thoroughly repaired and painted where necessary, and the whole neatly and securely piled. The sulphur has, in like manner, been packed in good boxes and stored in the north and south arsenals—an arrangement affording many advantages in the safe-keeping and preservation of these stores. The spare space thus obtained in the east and west arsenals is available for such other stores as may be required.

The old smith's and armorer's shop, on the main square, has been re-floored, and lathed and plastered, and now forms very comfortable and appropriate rooms for hospital, matron's quarters, and guard-room.

The new buildings for machine-shop and percussion laboratories, as soon as completed, were neatly painted in the interior, and supplied with the necessary furniture and fixtures for the work required. The steam-engine and machines purchased and transferred from other arsenals have been in constant and satisfactory use, and give us the means to do well and promptly all that has been required to be made or repaired at this arsenal; and also to construct the machines necessary for new work.

The manufacture of percussion caps and friction-tubes, especially assigned to this arsenal, has been commenced, and arrangements made and in operation for fabricating both as rapidly as may be found necessary to keep up the requisite supply. The new friction-tube adopted, and for the manufacture of which machines have been prepared, has given in our trials here very satisfactory results as to its certainty and security, so that we may have every confidence in its ultimate success. The form and mode of construction secures a cheaper and better protected tube than the old one. The composition used, and the mode of igniting it, seem to be perfectly secure; but I have recently discovered that, by the gradual wearing of one of the tools, the friction-wire of those lately made was sometimes cramped by the edge of the small tube, so that it could not be moved without breaking. This defect did not exist in those first made, as the tools were then new, and it did not occur often enough in the trials made here from time to time to attract attention. Now that it has been discovered, it can be easily prevented in future, and I see no reason to fear any failures hereafter.

The preparation of percussion powder for charging caps has been

proceeded with without accident, and the process is now well understood by the workman. By careful attention to the subject, we have been able to lessen the liability to accident, and to relieve the workmen from the inconvenience and distress caused by the dust, (by completing the working necessary for the thorough incorporation of the ingredients before the composition becomes dry enough to emit dust:) this produces a powder better adapted for use in the machines, being chiefly in grain, and saves the re-working of the dust, which, as stated in my report of the inspection of foreign establishments, is there found necessary.

The friction-powder for use in the tubes is made with perfect safety and great rapidity, by grinding the moist composition in an ordinary paint-mill, instead of using the marble slab and muller.

The general appearance of the arsenal grounds is very satisfactory, and by means of the saving from the farm fund it can be gradually further improved.

By your directions, the machinery in operation at the Watertown arsenal, for the alteration of muskets to purcussion, was transferred to this arsenal in March last, in order that it might be used in altering the arms of the State of New Jersey, as requested by the authorities of that State. The machines were immediately put in operation and every preparation made for the work, but (except altering a few hundred of our own muskets, which required it) nothing further has been done, as the State arms have not been sent to us. I have been able to leave the machinery for the present in position, awaiting your further orders upon the subject.

NEW YORK ARSENAL, COMMANDED BY BREVET MAJOR W. A. THORNTON.

The principal operations at this post during the year were as follows:

A building 40 by 26 feet, for an office and armory, has been erected.

A cistern 10 by 12 feet, for the quarters, has been constructed.

The barn has been enlarged by an addition at the triangular end, 10 by 26 feet.

64 new shot-beds, 17 by 7½ feet, have been constructed.

Fabricated.

53 packing-boxes.
1,000 cartridges for Colt's pistols.
1,822 flannel cartridge-bags and wads.
50 cone-picks; 12 lanyards for cannon.
2 double racks for arms in workshop.
139 feet of copper gutter and conductors.
1 large double iron gate.
670 pounds of paint.

A large quantity of tools for use of the post, and of parts for repair of artillery carriages at forts, have been made in blacksmith's shop.

A great deal of other work has been done at the post and at forts in the neighborhood, among which was the following:

1,100 buff belts blackened for issue.
2,197 belt-plates cleaned and re-dipped.
2 10-inch mortar beds altered and strengthened.
4 32-pounder barbette carriages repaired.
185 field and barbette carriages, gins, sling-carts, mortar-beds, &c., repaired and painted.
30 sights, hausses, and locks, adjusted to field-guns.
438 feet of joints in sea-wall cleaned and refilled with cement.
109,022 shells and balls repiled at the arsenal.
463 iron guns, howitzers, &c., cleaned, oiled, and lackered.
45 casemate upper carriages lackered.
902 square yards of wall, 288 doors, blinds, and shutters, 855 feet iron fence, and 1,207 feet of copper gutter and conductors, well painted.
Flooring and timbers of barn taken up and relaid.
18 feet of sewer to cistern built, and 86 square yards of brick pavement laid.
88 cubic yards of stone broken and spread on roads.
100 shade trees planted, and 1,278 square yards of sodding cut and laid.
1,100 feet of stone cut and laid.
668 loads of rough stone hauled.
145,000 bricks, 200 cubic yards of sand, and 443 casks of lime hauled, and sand and lime made into mortar.
2,516 cubic yards of excavation for foundations.
1,799 boxes of stores received and issued.
8,625 muskets, rifles, and carbines, cleaned, oiled, and repacked.

Besides the foregoing, a large quantity of infantry, cavalry, and rifle accoutrements, rifles, carbines, and pistols, and laboratory paper, have been inspected at the different establishments furnishing them.

NORTH CAROLINA ARSENAL, COMMANDED BY CAPTAIN J. A. J. BRADFORD.

The following comprises the principal operations at this arsenal during the year:

1. *Magazine for powder in bulk*, in progress at the date of the last report, has been completed.

2. *Northeast tower.*—This building has likewise been completed, and is now occupied as the permanent office of the arsenal.

3. *Officers' quarters, No. 2.*—Operations on this building have been continued as follows: 10,658 cubic feet of brick masonry in walls; 1,980 superficial feet of stone cut and mostly set; door and window frames, joists of floors, and roof timbers, framed and placed; 59 squares of slating put on roof; 579 feet of copper gutter and conductors put up; flooring and other lumber procured and kiln-dried; piazza finished and painted; 1,308 square yards of lathing and plastering done; walls yellow-washed; *cistern constructed, &c.*

4. *Southeast tower.*—This building has been nearly completed.

5. *Connecting walls.*—2,563 cubic feet of masonry, and 195 lineal feet of coping, have been built in this work; iron gates hung; and the walls yellow-washed.

6. *Arsenal square.*—283 superficial feet of curb-stone cut, and 59 lineal feet set; 143 feet of brick curb set; 2,871 feet of road and path-way constructed; 5,000 square yards of grading done; gravel and sand hauled and laid on roadways.

7. *Miscellaneous work.*—30,000 bricks set in kiln, and a kiln of 100,000 burnt; 46,036 feet of lumber received and piled; lightning-rods attached to officers' quarters No. 2, west line of shops, armorer's shop, &c.; cistern constructed for garden use; shade trees planted.

BENICIA ARSENAL, COMMANDED BY BREVET CAPTAIN C. P. STONE.

During the past fiscal year, the force at this arsenal has been occupied in receiving and repairing the unserviceable ordnance stores in the Pacific division, and preparing and issuing such stores as have been, and are likely to be, required by the troops serving in California, Oregon, and Washington.

There has been erected during the year one brick building thirty feet square, one a half story high, furnished with kitchens apart from the main building, serving as quarters for non-commissioned officers and master-workmen.

Fabricated during the year.

1,735 cartridges for small-arms.
609 cartridge-bags.
84 rounds ammunition for mountain howitzers.
400 pounds bullets for Colt's pistols; and various tools and spare parts for the repair of carriages.

The following stores were repaired:

14 field carriages, caissons, forges, and battery wagons.
362 percussion muskets.
8 sets artillery harness.
1,234 cartridge-boxes, cap-pouches, and bayonet-scabbards.

Other work done.

1,087 percussion muskets and 103 Colt's pistols cleaned, oiled, and repacked.
44 swords and musketoons and 8 sets artillery harness cleaned, oiled, and repacked.
Flag-staff erected.
4 platforms for shot laid.
75 tons powder and ammunition removed from San Francisco and stored in arsenal.
New pattern accoutrements packed and issued to troops serving *in California.*

DETROIT ARSENAL, COMMANDED BY CAPTAIN R. A. WAINWRIGHT.

During the past fiscal year the following work has been performed: In addition to the usual fabrications and issues of ordnance stores to different posts, the extensive fences enclosing public grounds have been in part rebuilt; partial repairs of public buildings, extensive painting of the same, and general grading and improvement of public grounds.

H. K. CRAIG,
Colonel of Ordnance.

ORDNANCE OFFICE,
November 11, 1853.

REPORT

OF

THE SECRETARY OF THE NAVY,

DECEMBER 5, 1853.

REPORT OF THE SECRETARY OF THE NAVY.

NAVY DEPARTMENT, *December 5*, 1853.

SIR: I have the honor to present the usual annual report from the Navy Department, exhibiting the condition of this branch of the public service, with a brief allusion to the operations of the several squadrons during the past year. I have ventured also to suggest for consideration certain views touching the increase of the naval force, the reorganization of the navy, and the modification of the laws and regulations for its government, from a conviction that many practical reforms may be introduced promotive of discipline and efficiency.

SQUADRONS.

The Home Squadron, Commodore Newton, consists of the flag-ship the frigate Columbia, Commander Pendergrast; the sloops-of-war Albany, Commander Gerry, and Cyane, Commander Hollins; the steamers Fulton, Lieutenant Watson, and Vixen, lately commanded by Lieutenant Swartwout. This latter vessel was despatched in the month of May to Tampico, on special duty, and on her return to Pensacola was put out of commission, on account of the appearance of yellow fever on board, which, in its fatal progress, deprived the service of many excellent officers and faithful men. So soon as she shall be thoroughly disinfected, and pronounced in a safe condition, she will be again put in commission and continue attached to the Home Squadron.

In January last the Fulton, under the temporary command of Lieut. Alexander Murray, was placed at the disposal of the late Hon. Wm. R. King, for the purpose of conveying him to Havana for the restoration of his health; after performing which service, and after having her machinery repaired, she again joined the squadron.

The steamer Saranac, Captain J. C. Long, detailed for duty in the Home Squadron, after having conveyed the Chevalier de Sodré, late Brazilian chargé d'affaires, to the seat of his government, joined the squadron in February, and remained attached to it until July, when, requiring repairs, she was withdrawn and put out of commission.

The vessels attached to this squadron have been cruising chiefly in the Gulf of Mexico, and among the West India islands. Disturbances at San Juan, or Greytown, threatening the property and rights of American citizens, the Cyane, Commander Hollins, was ordered to visit that port. The presence of his ship had the desired effect. The conduct of Commander Hollins evinced a gallantry and judgment which entitled him to the commendation of the department. The Albany relieved the Cyane, and remained at San Juan until her services were deemed no longer necessary.

The Brazil squadron, Commodore Salter, consists of the flag-ship Savannah, Commander Mercer, which sailed from Norfolk for her de

tination on the 14th of September, and the sloop-of-war Jamestown, Captain Downing.

The brig Bainbridge, Lieutenant Charles G. Hunter, sailed from New York on the 4th November last, to join this squadron, and on her arrival out the Jamestown will return home, by which time she will have been absent from the United States nearly three years.

The Germantown, Commander Lynch, also sailed from Boston on the 2d of December, to join this squadron. The store-ship Relief, Lieutenant Hitchcock, returned from Rio on the 15th of April last, entering the port of New York, and on the 25th July following was again sent out with stores for the squadron under the command of Lieutenant A. B. Fairfax, and temporarily forms a part of it.

The steamer Water Witch, Lieutenant Thomas J. Page, which left Norfolk on the 8th of February, though attached to this squadron, is not considered as one of the available vessels belonging to it, having, after a decree of the Provisional Director of the Argentine Confederation throwing open to navigation the tributaries of the La Plata, been detailed for the survey of the rivers Uruguay and Paraná. She arrived out at Buenos Ayres on the 25th May, but was detained from the execution of her immediate duties by the state of civil war existing, unhappily, between the different provinces of the Argentine Confederation, requiring her presence for the protection of the interests of American citizens engaged in commerce, or resident in that region. When last heard from, on the 30th of August, Lieutenant Page was expecting to set out immediately on the appointed expedition.

Commodore McKeever was in command of the Brazil squadron the earlier part of the year; and having completed a cruise of three years' active and efficient service, he returned in his flag-ship, the Congress, Commander Pearson, to the United States on the 20th of July. The records of the Navy and State Departments furnish satisfactory evidence that a portion of this squadron did good service, in promoting the interests of the government and protecting the rights of American citizens.

The African squadron, Commodore Mayo, consists of his flag-ship the Constitution, Commander Rudd; the sloop Marion, Commander Purviance; and the brig Perry, Lieutenant R. L. Page. The Dale, Commander Whittle, sailed from Boston, to join this squadron, on the 17th October.

Commodore Lavalette returned from the command of this squadron in his flag-ship, the sloop-of-war Germantown, Commander Nicholas, on the 30th of March. The John Adams, Commander Barron, and brig Bainbridge, Commander John Manning, having been detached from this squadron, reached the United States—the former on the 23d of July, and the latter on the 26th August.

Commander Lynch was temporarily attached, by my predecessor, to this squadron, for a reconnoissance of the west coast of Africa, for the purpose of ascertaining the localities affording the greatest facilities for penetrating the interior of the country. He returned to the United States in May last. His communication to the department, detailing the results of his reconnoissance, accompanies this report.

The opinion has heretofore been frequently expressed, that there is

no necessity for a squadron of so many guns on the coast of Africa; and that notice should be given to Great Britain, under the terms of the treaty in regard to the suppression of the slave trade, so as to be relieved from its obligations. The commerce on that coast has, of late years, increased so greatly, and American ships trading in that region have multiplied so much, that I am satisfied that the squadron is needed, and is very effective in protecting our citizens, as well as suppressing the slave trade.

The Mediterranean squadron, Commodore Stringham, consists of the flag-ship the frigate Cumberland, Commander Harwood; the sloops-of-war St. Louis, Commander Ingraham, and Levant, Commander Turner, to which vessel he was transferred from the Cumberland upon the return of Commander Goldsborough to the United States to take command of the Naval Academy.

The steamer San Jacinto, Captain Crabbe, formed one of the squadron; but, in consequence of the imperfection of her machinery—rendering her entirely useless as a steamer—she was ordered home, and arrived at Philadelphia on the 5th of July. Her engines have been condemned, and new machinery is being constructed for her, with which it is confidently expected she will prove an efficient cruising steamer.

The steamer Saranac, Captain J. C. Long, left Norfolk on the 19th of November, conveying the Hon. Carroll Spence, our newly appointed minister resident at Constantinople, to his station. After having completed this duty, she will join the Mediterranean squadron.

The vessels of this squadron have been actively coöperating with our representatives in that region—more especially with the Hon. Mr. Marsh, in his efforts to exact justice from the government of Greece to the American missionary, Mr. King. In calling to your attention the movements of this squadron, I cannot omit an especial reference to the conduct of Commander Ingraham, while in command of the St. Louis, at Smyrna. An ocean of thousands of miles separated him from his country; and his small ship was alone in bearing his country's flag. Violence was committed on the personal liberty of a man entitled to the protection of that flag. The perpetrators of the offence outnumbered him in vessels, guns, and men. It was a moment of peril, involving honor and life. With prudence and discretion, yet with promptness and spirit, and marked determination, Commander Ingraham gave the protection, and the man is free. Such conduct, under such circumstances, surely entitles an officer to the most significant evidence of his government's approval.

The East India squadron, Commodore Perry, consists of the steamer Mississippi, Commander H. A. Adams, his flag-ship; the steamers Powhatan, Captain McCluney, and Susquehanna, Commander Buchanan; the sloops-of-war Macedonian, Captain Abbot, Plymouth, Commander Kelly, Saratoga, Commander Walker, and Vandalia, Commander Pope; the store-ships Supply, Lieutenant Arthur Sinclair, Southampton, Lieutenant Boyle, and Lexington, Lieutenant Glasson. Commodore Aulick, whom Commodore Perry succeeded in command of this squadron, returned to the United States early in the year.

The extraordinary revolutionary movements agitating the millions of China *and threatening the overthrow* of the present dynasty, and

hope indulged of the dawning of a new era in the history of trade and commerce with that singular people, impart unusual importance and interest to the movements of this squadron. In addition to the ordinary duties of the squadron, Commodore Perry was intrusted with the delicate task of endeavoring to open commercial intercourse with the Japanese government. After visiting several smaller islands and having favorable interviews with their inhabitants, he proceeded with the steamers Mississippi and Susquehanna, and the sloops-of-war Saratoga and Plymouth, to Yedo bay, in Japan, where he arrived on the 8th of July last. After much effort, he succeeded in having an interview with one of the ministers of state, delivered in person a communication from the President of the United States proposing to form commercial relations with Japan, gave notice of his intention to return in the ensuing spring for a reply to his proposition, and, after making considerable surveys of the coast and harbor, he returned with his squadron to China, to give all needful protection to the interests of Americans.

The Pacific squadron, Commodore Dulany, consists of his flag-ship the frigate St. Lawrence, Commander William W. Hunter, and the sloop-of-war Portsmouth, Commander Dornin.

The sloop-of-war St. Mary's, Commander Bailey, left Philadelphia on the 15th of October, to join this squadron.

In addition to these vessels, the receiving-ship Warren, Lieutenant Stanly, at San Francisco, and the stationary store-ship Fredonia, Lieutenant J. D. Johnston, at Valparaiso, are under the command of Commodore Dulany.

The Fredonia was despatched to California, under the command of Lieutenant Chatard, with troops; after which she was sent down to Valparaiso, and Lieutenant Chatard was relieved by Lieutenant Johnston, who had been ordered for this purpose, and returned to the United States.

The sloop-of-war St. Mary's, Commander Magruder, which belonged to this squadron at the date of the last report, returned to the United States; as has also the frigate Raritan, Commander McKean, in which Commodore McCauley, late commander of the squadron, came.

The vessels of this squadron have been actively and usefully engaged in visiting the islands of the Pacific and looking after the interests of our countrymen. It is desirable to enlarge it when the department has the means.

Besides the employment of the vessels of the navy in these squadrons, the expedition for the survey and reconnoissance, for naval and commercial purposes, of parts of Behring's straits, of the north Pacific ocean, and of the China seas, authorized by the act of Congress of August 3, 1852, which was placed by my predecessor under the command of Commander Ringgold, should be mentioned. It consists of the sloop-of-war Vincennes, Lieutenant Rolando, the brig Porpoise, Lieutenant A. B. Davis, the steamer John Hancock, Lieutenant John Rodgers, the store-ship John P. Kennedy, Lieutenant Collins, and the tender Fennimore Cooper, Master H. K. Stevens. This expedition left the United States in June, and when last heard from had reached *Simon's* bay, Cape of Good Hope, and was doing well.

The brig Dolphin, Lieutenant O. H. Berryman, has recently re-

turned to the United States, having been profitably engaged in special service, under the act of March 3, 1849, "in testing new routes and perfecting the discoveries made by Lieutenant Maury in the course of his investigations of the winds and currents of the ocean." Much credit is due to the officers employed in executing this law. The hydrographer has, by their efforts, felt justified in materially altering his charts, and much time and distance have been saved to the navigator. The world has been much enlightened as to the depths of the sea, the currents and temperature of the ocean. I am advised that "the deep-sea soundings, taken from on board the Dolphin, are the most valuable contributions that have been made to science, touching this interesting question."

The steamer Michigan, Commander A. Bigelow, still continues employed on the lakes upon our northern border.

With a view to secure the observance of treaty stipulations and afford protection to our countrymen engaged in the fisheries on the coasts of New Brunswick, Nova Scotia, and Newfoundland, early in July a special squadron, by your direction, was sent thither under the command of Commodore Shubrick, consisting of the steamer Princeton, Commander Eagle, the Commodore's flag-ship, the sloops-of-war Cyane, Commander Hollins, and Decatur, Commander Whittle, and the steamer Fulton, Lieutenant Watson. The three last named vessels were withdrawn temporarily from the Home Squadron for this purpose. The squadron returned to Portsmouth, New Hampshire, about the middle of September, some one of the vessels having visited every part of the regions frequented by our fishermen. No complaints were made to Commodore Shubrick, by any, of illegal or harsh proceedings on the part of the English squadron stationed in those waters, and but one case of seizure was reported to him. This vessel, however, was released upon the payment of the expenses incurred in the admiralty court by the proceedings in the case, notwithstanding the admission by the master of an infraction of the treaty. It is believed that every effort was made to assure our countrymen of protection in the enjoyment of their rights, and that the duties confided to the squadron were executed with fidelity and zeal

After the return of the squadron, the Albany, Commander Gerry, belonging to the Home Squadron, was sent on a cruise to the fishing-grounds, and returned to New York on the 7th of November, having shown the American flag from the mouth of the St. Lawrence along the eastern coast of New Brunswick and Prince Edward's Island, and having passed over all the fishing grounds most frequented by our fishermen.

In the fall of 1852, at the earnest request of Lady Franklin, Dr. Kane, an accomplished passed assistant surgeon in the navy, was permitted to engage in special service, to some extent connected with the search for Sir John Franklin and his companions. He sailed from the United States during the past summer. While the officers heretofore engaged in this interesting search acquired much reputation for themselves and their country, I cannot but express my regret that in certain charts uttered from the English Admiralty Hydrographic Office on the 14th *of October, 1853,* an error has been committed, and credit

given for certain new discoveries of lands to officers of the British navy, whereas, in truth, they had been made, and the lands given a name, by the American expedition under the command of Lieutenant De Haven, which passed the English vessels and led the way up Wellington channel in the fall of 1850.

The Naval Observatory, under the superintendence of Lieutenant M. F. Maury, is doing much for science and navigation, much for the benefit of mankind and the honor of our country. For a few years past, a correspondence had been conducted between the United States and certain other governments on the importance of adopting some plan to secure a more uniform mode of making observations at sea. Ascertaining that various governments designed being represented at Brussels, in pursuance of scientific suggestions with which Lieutenant Maury had been conspicuously connected, I felt it my duty to relieve him temporarily from service at the observatory, with a view to his visiting Brussels. The result of his labors, in conjunction with other eminent persons, will, I have no doubt, prove vastly beneficial to commerce and navigation.

The letters accompanying this report from Professor Espy respecting his theory of storms and his meteorological observations, from Lieutenant Charles H. Davis in regard to the Nautical Almanac, and from Professor Alexander touching the scientific investigation and experiments upon the character of alimentary substances, are referred to for information as to the progress made in their respective works. No further appropriation for this latter object is considered necessary.

Lieutenant James M. Gilliss is actively engaged in preparing for publication the result of his astronomical observations at Santiago, in Chili. The report of Lieutenant Herndon, presenting the results of his exploration of the river Amazon and its tributaries, is nearly ready for distribution. The report of Lieutenant Gibbon, who was of the same party, but explored a different section of the country, and returned later, is nearly completed.

The indefatigable efforts of Lieutenant Dahlgren to give accuracy and greater effectiveness to gunnery, and to improve the ordnance of the navy, have succeeded well, and none can doubt the advantage the service will experience therefrom.

A law was passed on the 4th of April, 1842, authorizing a contract to be made with Robert L. Stevens, of New York, for constructing an iron war steamer, to be shot and shell proof. Difficulties of various kinds occurred, which resulted in a suspension of the work. In 1852 an act was passed by which the Secretary of the Navy was "authorized and required to have completed, with the least possible delay, the war steamer contracted for with Robert L. Stevens, in pursuance of an act of Congress approved April fourteenth, one thousand eight hundred and forty-two." Aware of the great changes which have been made in the power and destructiveness of guns used on board of ships of war since 1842, I expressed an unwillingness to proceed in execution of the contracts without an understanding that the proposed steamer should be shot and shell proof, not merely against those in use *at the enactment* of the law of 1842, but also against the improved *guns in use* at the period of the law of 1852. Having come to a

proper understanding in regard to the law, I shall proceed with the execution of the contract.

NAVAL ACADEMY.

This interesting institution is rapidly supplying the navy with numbers of educated and accomplished young men, whose early training, discipline, and instruction, under the guidance of learned professors and experienced officers, peculiarly fit them to adorn the service. The beneficial results already witnessed, demonstrate satisfactorily that it is now sustaining the same relations to the navy that West Point Academy bears to the army.

It is well worthy of the fostering patronage of the government. There are, however, certain facilities not now in existence at the academy, which, in consideration of the fact that steam is being recognised as the powerful agent in naval warfare, I deem all-important to give completeness to the education of an officer. The practice-ship attached to the academy should be a steamer, and there should unquestionably be a machine-shop of cheap and limited character on the premises. If practice in the sailing-vessel has been considered indispensable to improve the students in practical seamanship and navigation, is it not manifestly important, now that steam is the mighty engine for propelling vessels of war, that the practice-ship should display to the inquiring youth, in familiar experiment, the practical working of the machinery, and the art of regulating and controlling it? How much more secure will be the war steamer engaged in delicate and important service, involving victory or defeat, if officered by a corps skilled in the science of engineering, and trained to run and repair an engine; who can manage her destiny, if perchance disease, or accident, or timidity, or other causes, shall have deprived them of the engineer.

I feel that I cannot too strongly invite attention to this subject, as in the progress and advancement of the age this early training of the young officer is peculiarly calculated to improve his fitness for responsible service. The communication of the last board of examiners on this subject is appended to this report.

But in order to familiarize the young midshipman with all the minute parts of the machinery of the steamship, it is proposed that, on a cheap and small scale, a machine-shop be erected on the premises of the academy, embracing a complete collection of the various parts of engines and boilers, with a full set of tools to be used by the proper professor in imparting instruction in his department of mechanics.

There are now at the institution 116 students. The first class under the regulations of 1850, will graduate in June next. Captain Stribling was on the 1st of November last relieved from his command as superintendent, after a connexion with the academy for more than three years. I take pleasure in bearing testimony to the uniform diligence and marked ability with which Captain Stribling has discharged his arduous and responsible duties The prosperity of the institution and the records of this department attest his fidelity. He is succeeded by Commander Goldsborough, an accomplished officer, who has recently returned from *the Mediterranean* squadron.

Your attention is invited to the report in reference to the academy from the Bureau of Ordnance and Hydrography; the annual report of the board of examiners in relation to the discipline and organization of the academy; and also, the report of the commandant of midshipmen as to the late cruise of the practice-ship Preble.

I concur in the opinion often Expressed in reports heretofore submitted to the Executive, that it would be good policy to authorize the President to appoint annually ten midshipmen "at large." It is well known that this rule exists in regard to cadets at the West Point Military Academy. Its application to the Naval Academy will extend the benefit of the institution to a class of youths who, under the present system of restriction to a residence in Congressional districts and to representative recommendation, are excluded.

YARDS AND DOCKS.

I have visited the navy yards at Kittery, Charlestown, New York, Philadelphia, Washington, and Portsmouth, Virginia. The public property at these several yards was generally in excellent condition under the careful supervision of those in command, and the business of the government conducted with discipline and system.

The contractors for building the dock basin and railway at Pensacola having reported that they had executed the contract, arrangements were made for testing the work in accordance with the terms of the agreement. The frigate Columbia, of the Home Squadron, was the ship appropriated for that purpose; and a board appointed to superintend the experiment. A full report was made by the board, unfavorable to the contractors, who were notified that the works could not, therefore, be accepted. Deeming it of great importance to the ships-of-war cruising in that vicinity, as well as to the commercial marine, that there should be a dock at Pensacola, and in consideration of the money expended, I was unwilling hastily to abandon the works.

It is due, perhaps, to the contractors to state, that notwithstanding the unanimous unfavorable report of the board, consisting of a naval constructor, civil engineer, and an officer of the army and of the navy, they contended that the board had not applied a fair test.

I have consented to suspend taking action against the contractors until repairs are made, and another test applied, at their own expense and risk, which, it is understood, will be made at an early day.

During the late session of Congress, an appropriation was made for erecting buildings at the navy yard at San Francisco, and "to complete and carry into execution the verbal contract for a basin and railway in California, in connexion with the floating dock, as made by the late Secretary." Mare island was the site purchased and paid for on the 2d of March last.

The law provided expressly that the money for the erection of buildings, &c., at the navy yard should not be expended until the Attorney General gave an opinion that the title was good and sufficient. The question was accordingly referred to him, and an opinion given that the title of the United States was not sufficient. Under the circumstances, the money thus appropriated was not expended. Efforts are

being made, however, to perfect the title. A navy yard is very much needed in California, and no time will be lost in accomplishing the work so soon as the legal impediments can be removed.

The question of the necessity and usefulness to the public service of the construction of a basin and railway, in connexion with the sectional dock, in California, became a matter of investigation soon after I entered upon the duties of the department. Fourteen hundred and fifty thousand dollars was the amount originally agreed upon for the sectional floating dock in combination with the basin and railway. Subsequently the contract was suspended as to the basin and railway, and it was agreed that six hundred and ten thousand dollars should be paid for the dock. The construction of the basin and railway, submitted to the discretion of the department by the act of the last Congress, involves an expenditure of eight hundred and forty thousand dollars.

The question as to the *necessity* of the basin raises the inquiry whether this species of dock is so formed that it would be *unsafe* to place a vessel on it for extensive repairs unless protected by that structure. The sectional floating dock is composed of ten separate and independent sections. Unless it has the protection of a quiet harbor, it would necessarily be much affected by the undulating motion of the waves and be much at the mercy of the winds.

When a vessel is placed on the dock and floated into a basin, it may remain there for months' repairs without any danger from storms. My predilections are very decidedly in favor of stone docks; but Congress has decided that a sectional floating dock is preferable in California. I entertain the opinion that a basin is necessary to render it perfectly safe when a large ship is docked for repairs, which may expose it to months of dangerous weather.

As to the usefulness to the public service, my opinion is, that as it is proposed to build but this one dock on the Pacific coast, it would be rendered doubly useful by having the basin and railway, by which many vessels can be accommodated at the same time. Although the *railway* would be *useful* to the public service, I am not of opinion that it is *necessary*.

The opinion having been given by the Attorney General that the title of the United States to the land purchased for a navy yard was not good, I have declined to make any contract for building the basin and railway. On examination, I ascertained that the contractors had entered into a separate agreement with the government to erect a pier to secure the dock for three years only, and dock the vessels of the navy, provided they were allowed to charge for docking merchant ships for that space of time. It is expected that the difficulties as to the title will be removed at the approaching session of the legislature of California, when I shall proceed to execute a contract for the *basin*, unless Congress shall otherwise direct.

The sale of the portion of the land attached to the navy yard at Brooklyn, directed by the act of the last Congress, for reasons set forth in the letter from the Bureau of Yards and Docks, has been postponed. The letter accompanies this report.

The suggestions made by those who have preceded me touching the policy of a naval establishment at New Orleans are commended to a favorable consideration; provided, however, it is previously ascertained by proper surveys that the bar will admit of the approach of vessels of war. The resolutions of the Senate directing the Secretary of the Navy to report whether it will be advantageous to the government to establish naval depots at Newport, Rhode Island, and at or near Beaufort, North Carolina, will be made the subject of a special communication to the Senate so soon as sufficient information is received from parties now making surveys.

Commander Blake of the navy was despatched to Key West, Florida, in October last, for the purpose of making arrangements for carrying into execution the act of July 21, 1852, for establishing a coal depot for naval purposes at that place. His accompanying letter explains the progress made.

RULES AND REGULATIONS.

Attention has been repeatedly invited by my predecessors to the importance of further legislation on the subject of rules and regulations for the government of the navy.

The law for "the better government of the navy" was approved in April, 1800. This law, passed more than half a century ago, still exists for the government of the navy, having been but little altered, with the exception of that part of it relating to corporal punishment. Many amendments of that law, with a view to economy of time and money, have been rendered important and necessary on account of the great expansion of our country. It is not adapted to our present condition. When it was passed, our ships-of-war on the coasts of Florida, Texas, and California, were "acting out of the United States," and its provisions as to courts-martial could be conveniently enforced; but if a large squadron should be at San Francisco, however important early action might be for convening or dissolving a court-martial, there must now be delay until the department at Washington can issue the necessary orders in each case.

The "Rules and Regulations" were adopted in 1818, under the act of 1815. They need much modification. In December, 1852, a board was convened for that purpose, under an order from the Secretary of the Navy. They reported a system of rules, which were approved by the late Executive in February, and a few copies were issued to officers. A question, however, has arisen as to the authority of the Executive to adopt this system of orders and instructions without the sanction of Congress; and the opinion of the Attorney General having been, that without the sanction of Congress they were illegal, by your direction an order was issued rescinding them. The regulations of 1818, therefore, are still in force.

Controversies between the sea and civil officers of the navy, in regard to rank, have arisen, and will continue until adjusted by legislation.

I see no objection to the assignment of a proper rank to the civil officers of the navy; not merely as a gratification of pride, but to prevent *discord.* It exists in other navies and in our army.

The result of my investigation of this subject is a decided conviction that the maintenance of our proper and elevated rank among the great powers of the world; the just protection of our wide-spread and growing commerce; the defence of our thousands of miles of coast along the Atlantic and Pacific oceans, the lakes, and the Gulf of Mexico; the recent marked improvements in the art of naval architecture adopted by other nations—all unite in demonstrating the policy, the necessity, of an increase of the navy. It is true, indeed, our policy is peace. No lust of dominion, no spirit of aggression, marks out *our* course. Our national mission is, by the moral force of example, to illustrate the blessings of liberty and peace, civilization and religion. But the reasonable inquiry is, can peace be best maintained by the exhibition of comparative weakness, or by a display of strength and a preparation which, while it invites not a conflict, at least defies assault? What are the objects of a navy—what the considerations to guide us to a correct conclusion as to the size and character of the naval force of a republic situated, geographically and politically, as the United States? Do not wisdom and prudence admonish the careful statesman in his calculations for the future, while he takes thought of the commerce, the rights, the coast to be protected by this right arm of defence, at the same time not to be unmindful of the comparative force, efficiency, and character of the navies of the great powers with whom, with all our cherished love of peace, we may have to contend? Is it the suggestion of a sound discretion to rely exclusively upon the sudden preparation of a patriotic people when the perilous emergency starts up before them, and shut our eyes with quiet composure to our real condition? Or is it wiser to make that preparation which a considerate glance at the true state of facts shall persuade us is essential to our security?

I believe that it is only necessary to present the case as it truly exists to the attention of those who have the power to produce the desired results.

The American navy consists of about seventy vessels, embracing all from the ships-of-the-line to the smallest brig, schooner, and store-ship. Of these many ships-of-the-line, frigates, steamers, and sloops-of-war are not only unfit for service, but, I am advised by the Bureau of Construction, Equipment, and Repair, are not worth repairing. There are not now in the navy forty vessels which could be brought into service in ninety days, if needed. There is no steamer in the Pacific or African squadron, but one of two guns in the Brazil squadron, and we have no steamer of more than ten guns. The law only authorizes the enlistment of 7,500 men, which, with an allowance of a proper complement for each vessel, would not man a fleet of fifty vessels, with a fair proportion of large ships. On referring to authentic papers, it will be found that, in *point of size* at least, our navy is much less than one-fifth of that of several of the greater powers of Europe; and, whatever may be its relative superiority and efficiency, is not larger than that of certain other powers of Europe which are not of the first rank in the scale of nations.

And however much we may desire to cultivate terms of amity, these are the powers with whom we are most likely to contend in future conflicts, and the great deep is the theatre on which future contests may be decided. I am not unmindful of the mighty development of strength and force which the patriotism, the energy, the nautical skill, and mercantile marine, of a great nation would soon rally to our assistance. Other nations, in addition to their large navies, have *their* immense mercantile marine, and *their* mail steamships also. But, again, what have we to defend and protect? We have an Atlantic coast of much more than two thousand miles, stretching from the Rio Grande to the St. Croix, studded with magnificent cities and thriving towns. We now have a Pacific coast extending for many hundred miles, from the confines of Mexico to the far northwest; an inviting country, rapidly populating, totally unfortified, separated by mountains and deserts from the military power of the government. A new empire has, as by magic, sprung into existence. San Francisco promises, at no distant day, to become another New York, and our prosperous trade in the Pacific, amid the wonders of commerce, to bear the same relation to China and Japan which that of the Atlantic coast bears to the continent of Europe and Great Britain. We have over four millions of tonnage; American vessels, freighted with the rich fruits of American industry, penetrating every sea; and thousands of our countrymen, whom busy enterprise has borne to distant lands, or whom misfortune has wrecked on some inhospitable shore, all look to their country's flag to protect them. Is our present navy sufficient for all these great purposes of defence and protection? I am very far from intimating an opinion that we should steadily maintain a naval force as large as that of some of the powers mentioned. They have large colonial settlements on islands and continents remote from their seat of government. Their jealousies, their proximity to each other, their peculiar form of government, all combine to require for their purposes a far larger naval force than we need. But while they are annually enlarging theirs, shall we allow the disparity annually to become greater? The following warning admonition on this point by Washington, in his eighth annual message, enforces this view: "To an active external commerce, the protection of a naval force is indispensable. This is manifest with regard to wars in which a State itself is a party. But, besides this, it is in our own experience that the most sincere neutrality is not a sufficient guard against the depredations of nations at war. *To secure respect to a neutral flag requires a naval force, organized and ready to vindicate it from insult and aggression.* This may prevent even the necessity of going to war, by discouraging belligerent powers from committing such violations of the rights of the neutral party as may first or last leave no other option. These considerations invite the United States to look to means, and to set about the gradual increase of a navy. Will it not, then, be advisable to begin without delay to provide and lay up the materials for the building and equipping of ships-of-war, and to proceed in the work by degrees, in proportion as our resources shall render it practicable without inconvenience, so that a future war of Europe may not *find our commerce* in the same unfortunate state in which it was found

by the present?" I take it to be a fair proposition that our navy should, *at least, be large enough to command our own seas and coast.* Otherwise, it would seem to be not only a useless appendage, but fall an easy prey to the enemy and add to his strength. And, in view of this point, it may be well to remember the positions overlooking our home commerce, the Bermudas and West Indies, well fortified and held by other nations. It may be said that we have strong fortifications, and that they can be relied upon for defence. But our fortifications, with their conceded importance, without a navy, have well been compared to a shield without a sword. Perhaps it may be alleged that our navy was comparatively small in the war of 1812, when our gallant officers achieved brilliant victories, won for themselves imperishable renown, and broke the charm of the enemy's naval invincibility. Those were, indeed, great achievements, and we still have proud spirits in the navy whom opportunity would call forth, and who would again accomplish all that valor and patriotism could accomplish. But without enlarging upon the circumstances which helped to occasion success then, or dwelling upon the disasters that then befel our commerce, when we call to mind the formidable, growing, and, in numbers at least, the overwhelming strength of the navies of the many great nations with whom we claim equal rank, may it not be well to consider that it may even be possible to tax too severely the valor and skill of our small navy, however gallant? As, however, we have enjoyed a season of profound peace, with the exception of the war with a nation without a navy, it is, perhaps, not to be regretted that we have deferred enlarging ours thus long, as we can now advantageously avail ourselves of the vast improvements suggested by the tests of experience and the inventive genius of the architects of our own and other countries.

Steam is unquestionably the great agent to be used on the ocean, as well for purposes of war as of commerce. The improved system of screw-propellers, instead of side-wheels, is one of the grand desiderata to render the use of steam effective in naval warfare—the one being exposed to the shot of the enemy, the other submerged and comparatively secure. When the bayonet was added to the musket, the invention was applauded, for placing in the hands of the soldier, at one time, two engines of *destruction;* and the introduction of the screw-propeller has been similarly appreciated, as combining, without confusion, two elements of *progress*—the sail and the steam-engine. Side-wheel steamers are much impaired in their capacity for sailing, and consume too much coal for distant cruises. Those now on hand can be made to answer well for short cruises and as despatch vessels. The screw-propeller, being upon a principle not so much interfering with the sailing capacity, with the improved models of the present day, can be so constructed as to sail as well as the best clipper-ships, and reserve the use of steam for emergencies when greatest speed is required, or when, in a calm, a desirable position can be the more promptly and surely taken. The great necessary expense incident to the expedition to Japan could have been materially, indeed one-half curtailed, had it been in the power of the department to have supplied the squadron with screw-propellers instead of the side-wheel steamers, now costing so much from the consumption *of coal.*

I recommend, therefore, that the department be authorized to have constructed at least six first-class steam-frigate propellers. The opinion is entertained that that number may be built in our several yards in addition to the work now going on, and the repairs usually needed on the return of vessels from long cruises. It is estimated that they will cost between four and five millions of dollars, and can be built in about twenty months. With the exception of some deficiency in the supply of white oak and yellow pine, which can be without much difficulty procured, we have on hand at the various yards ample material to accomplish what is recommended. It will be perceived, on referring to the estimates of the Bureau of Construction, &c., that an estimate is made of the entire cost—of the cost without purchasing any material, and of the probable amount which would be expended during the fiscal year without regard to great despatch. This was done in order that the subject might be understood properly, and that such action might be taken as appeared wisest. As it is deemed desirable to make this addition to our naval forces as early as practicable, in consideration of the number of vessels which will soon be unfit for service and not worth repairing, and as it is important to retain on hand for emergency a reasonable supply of building material, I venture to suggest the policy of making the appropriation at an early day, to enable the department to build them with despatch, and purchase a supply of material so as not to diminish the amount on hand.

There are two frigates—the Santee, at Kittery, and the Sabine, at New York—which have been on the stocks since 1819. They can be altered and made to conform to modern improvements, and be most useful substitutes for two frigates of the same class withdrawn as worthless. I recommend that they be thus reconstructed and launched. Estimates of the cost will be furnished, should the suggestion be adopted. The old ship-of-the-line, the Franklin, is being repaired at Kittery, and her model much changed, with a view of converting her into a first-class steam-frigate.

Should these recommendations be adopted, our naval force will be materially strengthened by the addition of two first-class sailing frigates and of seven first-class steam-frigates, capable of mounting fifty guns each—there being no steamer at present of more than ten guns. My opinion is, that it would be sound policy to dispose of such vessels as are deemed unfit for service as vessels of war.

I cannot allow this occasion to pass without an allusion to the repeated failures in our steamships of war to fulfil the public expectation. I deemed it my duty to order a searching investigation into the causes of these deplorable disasters, and appointed a board of three engineers and one constructor to inquire and report to the department the causes of the failures, and the parties who were responsible. Their report is on file in the department, which may profit from the facts which it discloses.

Although I have endeavored to throw around recent contracts safeguards, by reserving the payment of one-half of the contract price until the work is completed and *successfully tested*, which I trust may insure good results, I unhesitatingly renew the recommendation heretofore made, of the importance of establishing machine-shops at several

navy yards on the Atlantic, and at San Francisco on the Pacific coast, for the construction and repair of machinery for steamships of war. Recent occurrences have multiplied cogent arguments in favor of that policy. With the exception of limited arrangements in the Washington navy yard, the government is entirely dependent upon private contracts. The yard at New York is regarded as large and useful, and well adapted, by its plans, for purposes of naval construction; yet when the steamer Princeton returned from her cruise on the fishing grounds, to be repaired merely, she had to leave the navy yard for a private establishment. The government can avail itself, when necessary, of the skill of private establishments; but it is submitted whether it is not wise to have a few machine-shops, in which the supervision and judgment of its own superintendents may be exercised as to material, workmanship and time.

It is submitted, also, that it is important that the department be authorized, when expedient, to increase the enlistment of men from the present number of 7,500 to 10,000.

The suggestions of the Bureau of Medicine and Surgery on the propriety of increasing the number of the medical corps of the navy, are commended to a favorable consideration.

The recommendations in the report from the commandant of the marine corps are entitled to consideration. For the preservation of discipline on ship-board and active service in emergency on shore, the importance of this corps cannot be too highly appreciated. The improvement of the barracks at the several stations specified in the report, the increase of the corps, the policy of adopting some plan for securing the services of officers educated and disciplined as the officers of the army and navy, are subjects deserving attention.

This corps has ever been found faithful and useful. I am clearly of opinion that it should be enlarged; for, in its present limited condition, the active service of officers and men is frequently demanded before it is possible to qualify them properly with sufficient drilling.

I have thus frankly presented my views of the policy and importance of enlarging our naval force.

REORGANIZATION OF THE NAVY.

I cannot withhold the expression of my opinion that the present organization of the navy is not only essentially defective and unwise, but is, in its practical operation, working palpable and serious mischief to the efficiency and character of that branch of the public service.

I am not insensible to the fact that proposals for radical reform, however much suggested by the results of experience, observation, or reflection, are often viewed with distrust and doubt, as rash innovations upon familiar and long-established systems—clung to, sometimes, with tenacity, and abandoned, generally, with reluctance. From a sense of justice to the service and duty to the government, I venture to expose to view some of those defects, and briefly recommend remedies, by which it is hoped they may be, to some extent, removed. This subject has long attracted the attention of those whose occupation or association *has brought them in* contact with the navy; and, as it

has more recently won the consideration of Congress and the public, great solicitude is felt, great hope is entertained, that the much needed relief will be no longer delayed.

The great evil in our present system is, that neither merit, nor sea-service, nor gallantry, nor capacity, *but mere seniority of commission, regulates promotion and pay.* The gallant, chivalrous men of the navy feel subdued, dispirited, discouraged; their ardor is chilled; the fire of their young ambition and pride is well nigh extinguished. Many are leaving the service to which they have so long fondly clung; many remain only because of the cherished expectation of reform. The officer who encounters all the perils of the deep, wins the admiration of the world for his brilliant achievements, and makes his countrymen prouder than ever of their country, returns to rest awhile from his toils, but to feel mortified in seeing the indolent, the imbecile, who have known no toils, and have never met the enemy, daily promoted over him. It is true that the Executive has power to some extent to interfere and exercise a discretion as to promotion; but so fixed and well settled has been the almost uniform course, since the organization of the navy, of promoting according to seniority of commission, that the effort, by any Executive, to deviate from it without the sanction of law, could only be made at the hazard of charges of favoritism and prejudice, productive of a discontent as injurious, probably, as the evil itself. It is true, also, that the Secretary of the Navy has the discretionary power to place officers on furlough, and thereby reduce their pay. It has frequently been done. I have exercised the power myself. But in the absence of some uniform rule, sanctioned by law, the effort at discrimination, however sincere and disinterested, is so embarrassed with difficulties, by no means diminished by the interposing appeals of the friends of the parties, that this power, if not paralyzed, is divested almost entirely of its salutary and corrective virtue.

To illustrate the unfairness of the present system, permit me to mention a few facts, not with the view of invidious comparison, but solely to elucidate the subject. There are officers who have been in the navy more than *forty* years, whose total sea-service is *less than ten years*, who receive the same pay with those of their grade whose sea-service is *fifteen, eighteen*, and *more than twenty years*. These officers who are thus receiving pay prevent the promotion of those below them who have seen more than twice their service at sea, and have helped to give their country a name. There are inefficient officers, who have not done duty on sea or shore for *twelve, fifteen*, and *twenty* years. There are *lieutenants* who have seen *double* the service of some of a higher grade, and receive but *half* their pay. There are many *passed midshipmen* of more than *ten years' sea-service*, whose pay on leave is *six hundred dollars;* and there are their superiors in rank, *of less than ten years'* sea-service, whose pay is *twenty-five hundred dollars.*

The pride of rank and position is the animating element that imparts vigor to the arm, courage to the heart, buoyancy to the spirits of the faithful officer, and there is a peculiar sensitiveness to the slightest neglect. But in a country like ours, so full of rich fields inviting the enterprising, presenting so many paths through which the aspiring may *advance to fame* and fortune, what is there in the above outline of the

picture which our naval system exhibits to attract the accomplished young men of the day? The timid and the laggard are promoted as rapidly as the brave and active. The officer who has borne himself well in twenty years' service, amidst the storms and dangers of the sea, beneath tropical suns and near unfriendly coasts, on obtaining his few months' leave of absence, finds himself only receiving the same pay with those of his own grade who have lingered amid the comforts of home and rarely ever touch the deck of a ship. But it may be said that pay should be increased with rank, and that the officer of the lower grade should be content until he attains a higher rank. This reasoning, however, is met by conceding the correctness of the principle, but protesting against the system which blocks up the path to rank by imbecility or incompetency, and thus deprives merit and hard service both of rank and pay. I am aware that it is an easier task to point out defects than to prescribe remedies. But the evils of our system can hardly be diminished by time, and no reform can be expected without effort.

I entertain the opinion that *a retired list, on reduced pay, for the faithful who have become infirm; the discharge of the inefficient, who have no claim on the bounty of their government for services rendered; promotion regulated by capacity, merit, and not by mere seniority of commission; pay to some extent controlled by sea-service*, are reforms not only demanded by the condition of the service, by considerations of justice, but absolutely necessary to the preservation of efficiency and usefulness. There are officers whom the infirmities of age or the ravages of disease incident to the exposures of a rough seafaring life have rendered unfit for duty. They have been faithful public servants, ever ready to obey orders, and, from their vocation, improvident for the future. On retiring such men, to secure the aid of the more vigorous and active, a grateful country may well deal generously, and thus at the same time administer kindness to age and fidelity—justice to the deserving. I believe this plan of a retired list can be so arranged as to protect the treasury from the heavy drains of an odious pension system. They are now *all* on pay. Reduce the pay of the retired, stop the pay of the discharged, organize thus a corps of efficient officers, and, as a question of economy, this system, with proper guards and restrictions, may be one rather of retrenchment than extravagance. To apply these principles and reduce them to practical operation, may, at first, seem inconvenient and embarrassing; but in common with many who have bestowed much consideration on this subject, I am persuaded that the difficulties are far from being insurmountable.

A board of officers of various grades, carefully selected by the President, can be convened periodically, to report to him the names of those who, in their judgment, should be made subjects of the rules prescribed. Their report may be subject to the approval, or reversal, or modification, of the President. To enable them to act intelligently and impartially in this delicate task, the Secretary of the Navy can lay before them, not merely the Navy Register and the records of the department, but may materially contribute to their enlightenment by inviting, in the least offensive and most delicate mode, the opinions of the officers them-

selves, touching the fitness of those of their own grade and those below, whom association and opportunity have enabled them to know.

But I forbear to enlarge upon the details necessary to give shape and effectiveness to the proposed reform.

In the present system of pay, experience and observation convince me that there is a radical error. Although pay should not be, and is not, the chief incentive to activity, yet every consideration justifies the policy and propriety of, to some extent, regulating pay by service. The difference between leave of absence and duty pay is so very small, that it practically invites the officer to avoid sea-service, and really makes it more profitable to be idle than to labor. If *sea-service* gave a certain per cent. increased pay, under proper limitations and restrictions, the beneficial effects would be twofold. It would be but a just reward to diligence, and would stimulate officers to go to sea, so as to swell their income for themselves and families. I recommend, therefore, a modification of our present pay system in accordance with these views, and I am satisfied it will promote a *desire* for sea-service, instead of a reluctant obedience to orders. The pay of the forward warrant officers also needs regulating. They are useful officers.

The specifications, however, of the various changes which appear to me all-important in regard to rank, promotion, and pay, would unnecessarily extend this report; and with the expression of a hearty willingness to co-operate with Congress in arranging the details of measures to accomplish what may to it seem needful, I proceed to throw out a few suggestions touching the

MODIFICATION OF OUR SYSTEM IN REGARD TO SEAMEN, WITH A VIEW TO ENCOURAGE MORE PERMANENT ENLISTMENTS, TO IDENTIFY THEM MORE THOROUGHLY WITH THE NAVY, AND ELEVATE THEIR CHARACTER BY A PLAN OF REWARDS AS WELL AS PUNISHMENTS.

While the vigor and reform incident to our happy American institutions have been successfully infused into almost every department of government, and penetrated almost every fibre of the body politic, the neglected sailor, if we except the generous munificence of asylum and hospital, has too rarely felt the friendly touch of the legislative hand, and has continued to toil on under a code of discipline and laws but little modified since the days when the press-gang dragged the unwilling victim from the hovel to the man-of-war.

With a population approaching 30,000,000, full of enterprise and adventure, the difficulty of procuring sailors to man our ships-of-war, more particularly the difficulty of enlisting the young men of our own country, is not only attracting the attention of the public, but seriously embarrassing the efforts of the department to maintain even the small naval force now allowed by law. Hundreds of merchant vessels are almost daily darting forth from our busy marts readily filled with cheerful seamen, courting danger upon the element on which they love to live, while our ships-of-war are lingering in port until the recruiting officers, by hard effort, can manage, by the aid of the exacting landlord of the sailor-tavern and a small bounty, to procure tardy enlistments.

Our cities, towns and villages are thronged with athletic young men, struggling anxiously for employment in petty offices, and in every department of labor; and when disappointment and idleness beget dissipation, and dissipation reduces to degradation, and friends regard them as burdens to family and nuisances to society, then, and often not till then, do we hear the remark that they are now only fit to become sailors in the navy!

Why are the laboring young men of our country so reluctant to sail and serve under their country's flag? Is it a dishonorable calling? Why do our merchant marine find comparatively so little difficulty in procuring seamen? Is it because they care more for them—encourage them more—pay them better?

While I am far, very far, from proposing to relax discipline, to tolerate insubordination, to hesitate at administering punishment, sure punishment to correct the offender and to deter the innocent, I do propose some reform of our system, so as to *reward* the meritorious, to elevate the character of our seamen, to give more respectability to their pursuit, to cause them to become identified with, incorporated into, and a part of, the navy itself; to pay them better, to encourage them to love the flag under which they sail; and when they walk the deck of the man-of-war in a foreign port, and compare their condition with the sailors of other governments, to feel some pride in being American sailors, under American colors.

There is much in the character of the sailor to excite our admiration, much to enlist our sympathy. He is brave, generous, self-sacrificing. And when, after a long cruise, far from home and friends, tempest-tossed and weather-beaten, he treads upon the soil of his country again, discharged from the service, improvident and wasteful, unfit for land service, the victim of the more cunning, soon bereft of his hard earnings, surely it is but natural that this wanderer should look to his government to *care for him* and invite him to return to a service for which alone he is fitted, and in which he is so much relied upon to protect the commerce, the rights, the honor of that government. Without well disciplined, *contented* and efficient seamen, to man our ships, we may have officers of gallant bearing, vessels of storm-defying strength and beautiful symmetry, but the vital spirit will be wanting.

It becomes, therefore, a matter of grave inquiry, how shall this branch of the public service be modified so as to secure the best seamen and prevent expensive delays in despatching vessels whenever ready for commission?

In the first place, I deem it indispensable that some plan be adopted by which our seamen shall become more *distinctly and permanently a part of the navy and attached to the service.* Whenever a ship-of-war now returns from her three years' cruise, the *officers* are detached and granted a leave of absence for three months, with leave of absence pay, but the seamen are peremptorily *discharged—disconnected from the service.* If they have been meritorious, I propose that on their return they be granted an "honorable discharge," (to be considered a leave of absence on pay,) if within a certain time they choose to re-enlist in the service. This would possess a twofold virtue: of fair and generous treatment at parting—*an invitation to continue* a member of a family caring for them

during a temporary absence. They will soon regard the ship-of-war as their home; they will feel that they are part of the navy of their country; they will compare their condition with that of the seamen of the mercantile marine, appreciate their advantage, and cling to the service.

It may be also worthy of consideration whether it would not be wise very gradually, and never beyond a reasonable limit, to increase the pay of the seaman in proportion to the number of continuous cruises he makes, thereby creating an additional incentive to remain in the service. It is believed that by the officers in command, on returning from a cruise, filing in the department a certified list of those who are honorably discharged, there will be but little difficulty in simplifying and executing this plan, and so systematising it by registration as to produce the good results incident to making them a regular part of the navy, and thus touch their pride as well as their hearts. Many interesting suggestions on this subject were commended to the consideration of Congress by my immediate predecessor.

Another change, indispensable to the prompt securement of the services of first-class seamen, is to *pay them at least as much as their skill, experience, and character will command in the merchant service.* It is the effort of the department to regulate the pay of the hundreds of mechanics and laborers in the various navy yards, so as to correspond with the pay of similar employés in private establishments outside of the yards. Such, however, is not the case in regard to seamen. The appropriation will not permit it. It is true that necessity has recently driven the department to paying a bounty, which will be suspended so soon as the vessels indispensable to the service are manned.

Busy enterprise is dotting every ocean, and sea, and river, with vessels. The demand for seamen is proportionally increased. The wages now range from fifteen to twenty dollars per month; whereas, in the navy, the best seamen are paid but twelve dollars. Can we expect, therefore, to command *readily* any seamen, much less the best, under this state of things? My opinion is, therefore, that the pay should be increased.

But perhaps the most practical and important reform to promote efficiency in the corps of mariners is the blending together a system of *rewards* and *punishments*—to *encourage the meritorious, and to subdue the disorderly.*

The abolition of punishment by flogging, without legalizing some substitute therefor, has already occupied the attention of Congress and the country, and severely tested the forbearance and ingenuity of officers, and the character of our seamen. This subject has engaged my earnest and anxious inquiry, and I have no hesitation in expressing an opinion against its restoration. Having recently visited many of the ships in commission, conversed with the veteran sailors, and listened to the narratives of officers who have had the command of large crews since the law of 1850, my decided conviction, concurred in, too, by many officers who originally opposed its abolition, is, that its restoration would create discontent and desertion, and prove positively prejudicial to the efficiency of that branch of the public service.

But, at the same time, I cannot too seriously urge the policy of legalizing some substitute therefor.

It is said that the confinement of the disorderly and refractory seamen is but little punishment to *them*, but rather burdensome and oppressive to the *faithful*, whose increased labors make *them* the sufferers, and create a reluctance on the part of good sailors to remain in the service. This suggestion merits consideration. I propose a remedy, by which the punishment of the indolent and deserter will *increase* the pay of the faithful, and thereby tend to promote his *contentment* instead of *murmurs*.

The sailor on shore is reckless and wasteful; afloat he is remarkably avaricious, and daily counts over the balances due him, and estimates his reckonings of pleasures at the end of his cruise by the amounts he hopes to realize.

If the good sailor does the work of the indifferent, punish the laggard by a forfeiture of pay—*not* to the *government*, but to the *faithful* sailor—and he will do the additional labor with additional good will, and without a murmur.

If the *deserter* leaves his shipmates overtasked with increased burdens by his desertion, change the present regulation—let the deserter's pay be forfeited to the *faithful portion of the crew*, and not, as now, to the government.

Instead of investing the commander of the ship with this responsibility, in cases involving either a forfeiture of pay or a discharge from the service, let a commission of a certain number of the officers of the ship be detailed and constituted a court, whose decisions shall be subject to the approving power of the commanding officer. This would be very simple—would break the force of captious cavilling at the single judgment of the commander, and would obviate the necessity, expense, delay, and demoralizing influence of frequent courts-martial for minor offences upon the arrival of every ship in port. In very aggravated cases, this minor court could recommend a more solemn court-martial, composed, as at present, of a higher class of officers.

Let this minor court on every ship, with the approving, reversing, or mitigating power of the officer in command, have plenary power to confine offenders, with a reduction of rations, with or without pay. Empower the commander, upon the recommendation of this commission, to *discharge* offenders, with forfeiture of pay. Let the fund accruing from the forfeited pay of the imprisoned, the discharged, and the deserters, constitute a *merit fund*—not to be distributed until the termination of the cruise, and then to be distributed according to the judgment of this commission, based upon the conduct of the crew, to those who are by them adjudged on the homeward-bound passage to have been meritorious, and faithful, and loyal to their flag. The fund thus accruing from various sources, at the end of a long cruise would constitute a prize sufficient to stimulate the crew to win a share by fidelity to the end. And the forfeiture of pay, with confinement and reduction of rations, would diminish offences.

The establishment of this tribunal on each ship-of-war on a cruise would tend much to secure obedience from the crew to those in command, *and thus, instead of flogging* and other degrading punishments,

substitute close confinement, forfeiture of pay, reduction of rations, denial of liberty and shore privileges. These would punish the offending. Let the "honorable discharge," temporary leave of absence pay, the distribution of the merit fund, liberty and shore privileges, be the reward of the meritorious and true.

The estimates for the support of the navy and the marine corps for the year ending June 30, 1855, and for all objects coming under the control of this department, are, in the aggregate	$11,730,515	19
From which deduct special objects, including transportation of the mails in steamships	3,379,344	00
Leaves for the support of the navy and marine corps.	8,351,171	19
The total amount drawn from the treasury during the fiscal year ending June 30, 1853, as exhibited by the statement of appropriations for the naval service, prepared by the Second Comptroller of the Treasury, was	$12,091,120	87
From which deduct repayments	1,111,454	79
Gives as the total expenditure for all objects under the control of the Navy Department	10,979,666	08
But of this amount there was expended for special objects the sum of	4,039,942	37
Leaving as the legitimate expenditures for the support of the navy and marine corps for the fiscal year ending June 30, 1853	6,939,723	71

On the 30th June, 1853, the unexpended balance of all appropriations coming under the cognizance of the Navy Department, was $2,220,276 45. This amount will be required for the expenditures for the current fiscal year, in addition to the appropriations made for the fiscal year ending June 30, 1854.

Attention is invited to the reports of the several bureaus, embracing suggestions and estimates bearing on the portion of the public service belonging to each respectively. Experience confirms me in the propriety of concurring in many of the important changes in the present contract system, particularly presented in the report from the Bureau of Provisions and Clothing.

Under the existing system, contracts are taken too often by speculators, who, not being regular dealers in the article they propose to supply, merely embark in the business for the purposes of either selling the contract, or only complying with its terms if the state of the market will admit of large profits being made. Suits are often brought on the bonds, but a successful recovery is far from being generally the result of the trial. I trust that the embarrassments which surround this subject may be relieved by salutary legislation.

In the present organization of the Navy Department, there is a de-

gree of labor burdensome and embarrassing to the Secretary of the Navy, and severely distracting his attention from important business, which might, with great propriety and advantage, be otherwise distributed. The establishment of a Bureau of Personnel would merely add to the expenses of the government the difference between the present pay of an officer, and what Congress might deem a proper salary for one discharging the delicate duties of such a bureau. No additional clerks will be needed. It is hardly possible that a Secretary of the Navy can be sufficiently familiar with the character, fitness, and service of the officers of the several grades, to enable him to detail them satisfactorily for duty. If the head of such a bureau should bear the same relation to the Navy Department that the Adjutant General does to the War, it would, in my opinion, contribute much to perfecting the organization of this department.

I have thus, sir, taken the liberty to present for consideration many changes, which, in my opinion, will promote organization, discipline and economy. There are practical reforms connected with this branch of the public service which need not be obtruded on your attention in this report, but which every effort will be made to effect.

I have the honor to be, with great respect, your obedient servant,

J. C. DOBBIN.

To the PRESIDENT OF THE UNITED STATES.

List of papers accompanying the report of the Secretary of the Navy, December 5, 1853.

A.—List of deaths, resignations, and dismissions in the navy, since the last report.

B.—Report of Commander W. F. Lynch, in relation to his mission to the coast of Africa.

C.—Professor Espy's letter, in relation to meteorological observations.

D.—Report of Lieutenant Charles H. Davis, superintendent of American Nautical Almanac, in relation to its progress.

E.—Professor Alexander's report as to investigations and experiments upon the character of alimentary substances.

F.—Recommendation of board of examiners of Naval Academy, that a vessel propelled in part by steam be used as the practice-ship.

G.—Report of annual board of examiners, in relation to organization, condition, &c., of the Naval Academy.

H.—Report by the commandant of midshipmen of the late cruise of the practice-ship.

I.—Letter from chief of the Bureau of Yards and Docks, recommending that the sale of navy-yard lands at Brooklyn, authorized by act of March 3, 1853, be postponed.

K.—Report of Commander Blake, as to arrangements for establishing a depot of coal for naval purposes at Key West.

No. 1.—Detailed estimates of the office of the Secretary of the Navy, and detailed estimates of the superintendent of the Nautical Almanac.

No. 2.—Report and detailed estimates of the chief of the Bureau of Ordnance and Hydrography, including Hydrographical Office and Naval Observatory, and Naval Academy.

No. 3.—Report and detailed estimates of the chief of the Bureau of Yards and Docks.

No. 4.—Report and detailed estimates of the chief of the Bureau of Construction, Equipment, and Repair.

No. 5.—Report and detailed estimates of the chief of the Bureau of Provisions and Clothing.

No. 6.—Report and detailed estimates of the chief of the Bureau of Medicine and Surgery.

No. 7.—Report of the commandant of the marine corps, and detailed estimates from the paymaster and quartermaster of the corps.

No. 8.—General estimate of office of the Secretary of the Navy, and the several bureaux of the department.

No. 9.—General estimate for southwest executive building.

No. 10.—Summary statement of the estimates for the navy.

No. 11.—General estimate for the support of the navy.

No. 12.—General estimate for the support of the marine corps.

No. 13.—General estimate for special objects under the Navy Department.

o. 14.—Abstract of expenditures under the head of contingent expenses, as settled and allowed at the office of the Fourth Auditor of the Treasury, from July 1, 1852, to June 30, 1853, inclusive.

o. 15.—Statement of the appropriations for the Navy Department, viz: balances of appropriations on the 1st of July, 1852; appropriations for the fiscal year 1852–'3; repayments and transfers in same time; the amounts applicable to the service of the year 1852–'3; the amounts drawn by requisitions from the treasury in the same period; and the balances on the 30th of June, 1853, with such sums specially designated as have been carried to the surplus fund.

A.

List of deaths in the navy, as ascertained at the department, since 1st December, 1852.

Names and rank.	Date.	Place.
Captains.		
Charles W. Morgan ...	Jan. 5, 1853	Navy yard, Washington.
Thomas T. Webb.....	April 11, 1853	Norfolk, Va.
Edward R. McCall....	July 31, 1853	Bordentown, N. J.
Commanders.		
John M. Dale	Dec. 15, 1852	Philadelphia.
A. G. Slaughter	Sep. 8, 1853	Warrenton, Fauquier county, Va.
Lieutenants.		
Courtland Benham....	Oct. 30, 1852	Frigate Raritan, at sea.
Charles Heywood.....	Jan. 16, 1853	Frigate Saranac, at sea.
George W. Chapman..	Feb. 20, 1853	Philadelphia.
Henry Moor.....	Mar. 21, 1853	Killed on Sacramento river, California.
Surgeons.		
Peter Christie	Mar. 5, 1853	Buffalo, N. Y.
E. L. Du Barry.....	July 12, 1853	At sea, East Indies.
Passed Assist. Surgeon.		
Daniel L. Bryan.....	Sep. 14, 1853	Naval hospital, Pensacola.
Pursers.		
Joseph H. Terry.....	Aug. 22, 1853	New York.
D. Fauntleroy.....	Aug. 31, 1853	Navy yard, Pensacola.
Master.		
John Stuart.....	Oct. 27, 1853	Detroit, Michigan.
Passed Midshipmen.		
E. D. Denny.....	Feb. 2, 1853	Sonora, California.
A. C. Jackson.....	Mar. 31, 1853	Clifton Springs, New York.
Walter V. Gilliss.....	June 11, 1853	Louisville, Kentucky.
Richard J. D. Price...	June 20, 1853	Storeship Lexington, at sea.
John J. Hanson.....	Aug. 25, 1853	Naval hospital, Pensacola.

A—Continued.

Names and rank.	Date.	Place.
Midshipmen.		
William A. Little.....	Aug. 24, 1852	Sloop Plymouth, at sea.
Charles D. Sparks	April 12, 1853	Sloop Vincennes, N. Y.
Acting Midshipman.		
A. W. Brodhead.....	Jan. 23, 1853	Naval Academy, Annapolis.
Professor.		
Wm. B. Benedict	June 20, 1853	Leesburg, Va.
Master's Mate.		
James T. Power.....	Aug. 20, 1853	Bloomingdale asylum, N. Y.
Gunner.		
William Burton.....	May 31, 1853	Chelsea hospital, Mass.
Carpenters.		
Francis Sagee.....	May 23, 1853	Philadelphia.
William Lee.....	July 31, 1853	Navy yard, Pensacola.
Sailmakers.		
Wm. R. Pecor.....	Jan. 30, 1853	Sloop Levant, at Barcelona.
Thomas J. Boyce.....	Mar. 25, 1853	Newark, N. J.
Thomas Tatem.....	May 3, 1853	Wilmington, Delaware.
2d Assist. Engineers.		
George F. Barton.....	Sep. 4, 1853	Naval hospital, Pensacola.
Washington H. Nones .	Sep. 9, 1853	Naval hospital, Pensacola.
3d Assist. Engineers.		
William T. Gorton	Aug. 31, 1853	Naval hospital, Pensacola.
George E. Shock.....	Sep. 11, 1853	East Pascagoula, Miss.

Names and rank.	Date.	Place.
MARINE CORPS.		
Major Marines.		
Thomas A. Linton....	Feb. 17, 1853	Portsmouth, Va.
Captains Marines.		
Francis C. Hall.....	July 13, 1853	Norfolk, Va.
D. D. Baker	Aug. 31, 1853	Navy yard, Pensacola.
I. L. C. Hardy.....	Nov. 26, 1853	Brooklyn, N. Y.

List of resignations in the navy since December 1, 1852.

Names and rank.	Date of acceptance.
Commanders.	
William L. Howard.....	December 18, 1852.
Henry Bruce	November 28, 1853.
Lieutenants.	
Thomas A. Budd	April 29, 1853.
Andrew Wier.....	June 8, 1853.
Joshua Humphreys	June 27, 1853.
Carlisle P. Patterson	September 2, 1853.
Joseph P. Sanford	October 8, 1853.
Wm. Taylor Smith	October 17, 1853.
Pursers.	
Littleton Tazewell Waller.....	January 12, 1853.
James C. Douglass.....	February 24, 1853.
Chaplains.	
Orville Dewey	February 9, 1853.
Thomas Coke Stanley	September 26, 1853.

A—Continued.

Names and rank.	Date of acceptance.
Master.	
Edmund R. Colhoun	June 27, 1853.
Passed Midshipmen.	
Edgar Brodhead	January 12, 1853.
J. D. Langhorne	November 21, 1853.
Midshipmen.	
William H. Ward	December 10, 1852.
James D. Legaré	December 15, 1852.
Wm. Henry Smith	April 20, 1853.
Edward R. Shubrick	April 26, 1853.
George Dallas Hand	April 28, 1853.
Marshall E. Palmer	May 13, 1853.
Richard H. Gayle	June 27, 1853.
Acting Midshipmen.	
William H. Smith	December 16, 1852.
Clarence L. Barrett	Do do.
Wm. B. Emerson	February 25, 1853.
J. M. Etting	March 23, 1853.
J. Carson Erwin	October 3, 1853.
Boatswains.	
Edward Cavendy	October 8, 1853.
Robert Powers, (acting)	December 16, 1852.
John Bancroft...do	January 26, 1853.
John Stout.....do	March 26, 1853.
Thomas Burns ...do	October 1, 1853.
Richard Follins...do	November 15, 1853.
Gunners.	
John D. Brandt	January 12, 1853.
S. M. Beckwith	September 30, 1853.
Wm. W. Fisher, (acting)	November 14, 1853.
Engineer-in-Chief.	
Charles B. Stuart	July 1, 1853.

A—Continued.

Names and rank.	Date of acceptance.
Chief Engineer.	
William Sewell	November 10, 1853.
First Assistant Engineers.	
Wm. K. Hall	February 15, 1853.
Thomas Kilpatrick	August 22, 1853.
Henry Mason	November 14, 1853.
Second Assistant Engineers.	
John W. Parks	May 21, 1853.
Thomas A. Stephens	September 6, 1853.
Third Assistant Engineers.	
George E. DeLuce	February 28, 1853.
Joseph M. Freeman	October 8, 1853.
Charles H. Manson	November 25, 1853.
MARINE CORPS.	
Second Lieutenant.	
George F. Lindsay, jr	December 31, 1852.
Chief of Bureau of Construction, &c.	
Samuel Hartt	November 17, 1853.
Navy Agents.	
Francis Mallory	May 5, 1853.
Wm. Henry LeRoy	April 5, 1853.
Timber Agents.	
E. Sanford Sayre	February 19, 1853.
Zebulon P. Davis	February 26, 1853.

A—Continued.

List of dismissions in the navy since December 1, 1852.

Names and rank.	Date of dismission.
Lieutenant.	
William L. Blanton	December 1, 1853.
Purser.	
Dudley Walker	February 24, 1853.
Midshipman.	
Henry McThorne	November 15, 1853.
Acting Midshipmen.	
J. McD. C. Jay	February 25, 1853.
George T. Kendall	February 25, 1853.
E. B. Ragland	February 25, 1853.
George P. Tickner	April 5, 1853.
J. G. Worthington	June 21, 1853.
J. F. Brown	June 21, 1853.
Edward H. Burton	June 21, 1853.
C. W. Crenshaw	June 21, 1853.
William Cameron	June 21, 1853.
James N. Douglass	June 21, 1853.
Denton Dunn	June 21, 1853.
M. H. Gilchrist	June 21, 1853.
M. Hale	June 21, 1853.
S. H. Lamar	June 21, 1853.
A. P. McCrabb	June 21, 1853.
Boatswains.	
Robert Simpson	September 12, 1853.
Charles Smith, (acting)	August 6, 1853.
Charles McIntosh, (acting)	July 30, 1851.
Acting Gunner.	
John Wilkins	February 23, 1853.
Third Assistant Engineer.	
Joseph R. Pomroy	Dec. 20, 1852—dropped.

A—Continued.

Names and rank.	Date of dismission.
Navy Agents.	
Charles H. Ladd	April 5, 1853.
William Sloanaker	April 5, 1853.
William Hindman	April 5, 1853.
Benjamin D. Wright	April 12, 1853.
E. O. Perrin	May 28, 1853.
J. H. Lathrop	June 18, 1853.
Naval Storekeepers.	
N. W. Coffin	March 28, 1853.
Hiram Fuller	April 1, 1853.
John F. Sale	April 9, 1853.
John G. Hatton	April 19, 1853.
John Rice	May 7, 1853.
Adam Diller	August 18, 1853.
Benjamin S. Hines	August 18, 1853.
Thomas Woodward	September 1, 1853.
D. W. Whitehurst	September 16, 1853.
Timber Agents.	
T. B. Thorpe	April 23, 1853.
Wm. T. Purnell	April 23, 1853.
John Waterston	May 17, 1853.
Hardy Wilkins	July 26, 1853.
Nathaniel Davis	July 26, 1853.
Isaac Towsend	August 16, 1853.
D. G. McLean	August 16, 1853.
Hemp Agents.	
Thomas Smith	Feb'y 24, 1853—office discontinued.
Z. T. Woolfolk	

B.

U. S. STEAMER ALLEGHANY,
Potomac River, October 17, 1853.

SIR: Herewith I respectfully submit my official report of a mission to Africa, with appendix, maps, and sketches.

I have the honor to be your obedient servant,

W. F. LYNCH,
Commander.

Hon. J. C. DOBBIN,
Secretary of the Navy.

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PHILADELPHIA, *September* 5, 1853.

SIR: In obedience to an order of the department, dated October 25, 1852, I left the United States on the 13th of November following, for the west coast of Africa.

Touching at Teneriffe for information, I proceeded thence direct to the coast, in order to form some idea of the distance inland to, and the trending of, the nearest and most northern mountain range.

Africa—represented as torrid, pestilential, savage, and mysterious, reserved and guarded by the most terrible and resistless influences of nature—has been truly described as nowhere letting into its bosom the waters of the ocean, and, in like manner, projecting into the sea no important peninsulas. From the straits of Gibraltar to the Cameroons, the tame monotony of the coast is interrupted but by occasional isolated promontories, which can only be termed lofty by comparison.

From Cape Cautin to the Great Desert the principal elevations are "Ghebel Hadid" and the "Heights of Idantenan," and from the north boundary of the desert to Cape Verde, "Los Matillos" and the "Hills of Cintra" alone break the uniformity of a low and sandy coast.

On the 13th of January, of the present year, I saw Cape Verde, the westernmost point of Africa, (in north latitude 14° 45′,) which was first discovered by the Portuguese navigator, Fernandes, about the middle of the fifteenth century. In each direction, north and south, the coast stretched beyond the line of vision, in a narrow strip of sand, fringed with green; except the extremity of the cape which threw up two detached hillocks, of inconsiderable elevation, resembling islets in the distance. On the hillocks were many of the baobab or monkey tree, (*Adansonia digitata.*) which gives to them that verdant appearance from whence the cape derives its name. This tree is liable to be attacked by a fungus, which vegetates without destroying life, and renders the part attacked as soft as pith.

The trunks of such trees are hollowed into chambers by the natives, in which they suspend the dead bodies of those to whom burial has been denied. There they become mummies, dried and well preserved, without being embalmed. This is somewhat analogous to the custom of our Omaha Indians, who place the bodies of the dead in the crotches of trees. *Like all other plants* of the *malvaceæ* order, the baobab is

emollient and mucilaginous, and Europeans sometimes use it as a febrifuge and tonic. The fruit is large, oblong, pulpy, full of seeds, and of an agreeable acid flavor; and its juice, when sweetened, is drunk as a specific in putrid and pestilential fevers. The mandingoes convey it to the southern and eastern districts of Africa, and through the Arabs it reaches Morocco and Egypt. The ashes of the fruit, mixed with palm oil, serve for soap. The flowers are large, white, and handsome; and in their many petals and violet mass of stamens, bear some resemblance to the white poppy. Both flowers and fruit are pendant. The baobab attains the greatest age and is the largest tree known in the world, its trunk measuring, sometimes, ninety feet in circumference. At one year old its diameter is one, and its height five inches; at thirty years its diameter is two feet, and its height about twenty; at one thousand years its diameter is twelve or fourteen, and its height about sixty feet; and at five thousand years its lateral has so far outstripped its perpendicular growth that the diameter will be thirty feet, while its height scarce exceeds seventy feet. The roots are of a most extraordinary length, and in a tree seventy-seven feet in circumference the top root measured one hundred and ten feet. The foliage is very abundant, and the drooping boughs, with their mass of green, almost hide the stem—presenting a hemispherical mass sixty to seventy feet high and four hundred feet in circumference. Rene Caillè describes one he saw in the valley of the Niger, which, in size, must have surpassed the celebrated plain-tree of Lycia, in the hollow of which Licinius Mutianus feasted twenty-one guests.

Above the Senegal, on the desert of Zahara, the line of sand is no longer bordered with green; and from the powerful refraction there ensues a mirage, which so blends the water with the land as to present the appearance of an illimitable sea. On that coast perished the hapless crew of the Medusa.

It was a soft, golden morning when we made the land; but the sun rose yellow and dim, enveloped in a bank of vapor. In the space of an hour we had bidden adieu to the fresh wind that prevails from 30° north latitude to this parallel, and exchanged the agitated but not angry waves which curled before it for hot and stifling airs and a scarce undulating sea, curtained with a mist formed of its own evaporation. The northeast trade-wind, so cool and invigorating, had given place to the dry and parching harmattan, which, under its other names of samiel, simoon, and sirocco, sweeps across the deserts of Arabia and Africa. During this wind, which, in its flaws of heat, resembles more the blast of a furnace than living air, the atmosphere is hot, dry, and rarified to an almost insufferable degree, and sometimes becomes suffocating from the clouds of dust and sand driven before it. But we were not sensible of the strong aromatic odor wafted from the land, which regaled the senses of Hanno and his Carthagenian mariners in their voyage of discovery upwards of two thousand years ago.

A few hours after passing Cape Verde I arrived at Goree, a volcanic island, formed of basalt and sand, which, with some settlements on the Senegal, three degrees to the north, the French have held since 1816. *This island is* about half a mile long and a quarter wide. It is strongly *fortified; and,* from its natural position, the fortress on its summit

is almost impregnable—three sides being perpendicular and washed by the sea, and the fourth a precipitous ascent from the town. The population of the town and garrison is estimated at from six to eight thousand. Besides the fort on the summit of the hill, the place is strongly fortified, but could not long withstand a siege, as it is almost wholly dependent on the adjacent main for wood and water. It is the great entrepot of the French colonial possessions in West Africa, north of the equator.

There were in port, when we arrived, seven or eight French, one American, and two English merchant vessels—besides a French squadron of six sail, mostly steamers. The latter were preparing for a hostile expedition against a tribe to the south.

The river Senegal is supposed to rise in the mountains of Foota Jallon, and on the eastern slope of the same range it is surmised that the Niger has its source. In about 15° north latitude, the Senegal is joined by several tributaries, and, after passing Galam and the falls of Féloo, makes a circuitous bend to the northwest along the borders of the desert, and, after a course of upwards of 900 miles, empties into the Atlantic at Fort St. Louis. In its lower course, it flows between the Great Desert on the one hand, and a vast alluvial plain on the other, and becomes so swollen during the periodic rains, and sweeps with such a resistless current into the sea, that the latter, which, in the dry season, impregnates the river for upwards of a hundred miles from its mouth, is driven back with so fearful a recoil, that for a mile without the bar is one wide sheet of foam. At such times, entrance is impossible; hence the selection of the anchorage of Goree, which is at all times accessible.

Where it flows by Tuabo, the capital of Lower Galam, the Senegal, in the rainy season, presents a magnificent sight. It fills the plain, and rushes at the rate of six knots an hour by the bases of the hills, which are clothed to their summits with the richest verdure, while the surface of the stream is dotted with uprooted trees, on which are seen standing large aigrettes, whose snow-white feathers reflect the rays of a brilliant sun, and form a pleasant contrast to the green reeds around them and the brown trunks of the trees whereon they stand.

The principal articles of export from this region are the gutta-percha and the gum-senegal—the latter an exudation from a species of acacia, the bark of which is split by desiccation during the prevalence of the harmattan. Towards the close of the last century, this gum was discovered to be more mucilaginous and adhesive than that from Arabia, which, in the arts, it has almost wholly superseded. There are now upwards of two millions of pounds exported annually, mostly to France.

The French have settlements far up the Senegal, and control the trade of which it is the outlet; although they are not masters of the country—a country presenting a vast and interesting field for exploration. In its far interior, in the midst of barbarous nations, a semi-civilized tribe has been recently discovered, which has some religious notions analogous to the Christian, and possess an alphabet and a mode of writing, which, from their account, they derived from a white stranger who died among them, and whose memory is revered as that of a sage.

It was doubtless the traveller Compagnon, who, it is known, penetrated as far as the wooded desert of Simboni.

Except the island of Goree, and the hillocks crowned with foliage beyond it, which mark the peninsula of Cape Verde, there was presented to the eye, in every direction, inland and along the coast, a monotonous level of green, relieved here and there by the feathery tuft of a majestic palm. These were the only interruptions to the in-shore horizon.

From Goree I proceeded down the coast, eighty miles, to the Gambia; the land throughout the entire distance being low and densely wooded, except in one place, where a range of sand-hills presented perpendicular faces washed by the sea. Lying at anchor in the Gambia was the United States ship John Adams, rendering assistance to an American merchant vessel in distress. I felt much relieved when I descried our ensign at her peak. Her presence relieved me from the necessity, for which I had prepared by the purchase of charts and instruments, for making my reconnoissance in a small coasting vessel manned by Africans. It was with infinite satisfaction, therefore, that I grasped the hand of her manly and most excellent commander, and exchanged greetings with her intelligent officers, and looked upon her snow-white decks, her splendid battery, and clean, cheerful, and well-disciplined crew.

I presented to Commander Barron the order of the department, and he professed his readiness to carry out its views. I likewise informed him of the application I made just prior to my departure, asking to be allowed to extend the reconnoissance to the river Gaboon, near the equator, and showed him the reply of the department granting the permission, if it could be done in time. With every disposition to facilitate my movements, Commander B. stated that he could take me along the entire coast of Liberia, stopping at every place I might deem it necessary to examine; or he could proceed with me direct to the Gaboon, and from thence return to Porto Praya; but that he had not on board a sufficient quantity of provisions for both services.

As my orders were positive respecting Liberia, and only contingent as to the Gaboon, and as I had an expectation, scarce short of certainty, that in six weeks the sloop Marion or the steamer Vixen would be on the coast, I accepted his first proposition.

Like the Senegal, the Gambia has its source in the mountains of Footah Jallon, near that of the Falerne, one of the tributaries of the former. It is a powerful and rapid stream, and is navigable four hundred miles to the falls of Barriconda. Its whole course is about seven hundred miles, setting first to the northwest, and then to the west, and falls into the Atlantic at north latitude 13°. The Gambia is a magnificent water-road, which has never been thoroughly explored by Europeans; but there is a current belief that, by one of its tributaries, it is connected with the Senegal.

During the dry season, from November until May, the influence of the tide is perceptible some distance up; but while the rains prevail, and for several weeks after, a mighty volume of water sweeps down in an almost resistless current, and after overflowing its lower banks it encounters the long and narrow island of St. Mary's, which deflects it

a little to the north, when it spreads out and becomes lost in the sea. The island, but slightly elevated above the surface of the water, forms one side of the noble estuary, and lies lengthwise close adjacent to the southern shore. The two low, sandy shores are ten miles distant at the river's mouth, where an extensive shoal forms two separate channels.

On the north extremity of the island of St. Mary's, which is only one foot above high-water mark, just at the elbow round which sweeps the river, is the town of Bathurst, an English commercial and military settlement.

The soil of the island is sand and gravel, intermixed with a brown oxide of iron; and, judging from the overgrown weeds in the outskirts of the town and the size of the vegetables within it, is more prolific than, from its appearance, one would suppose. Towards the main land, the soil is evidently an alluvial deposite from above.

Bathurst is a very handsome place, containing some twelve or fourteen fine houses built of stone, the residences of the merchants, besides the hospital, the government house, and the barracks for the accommodation of English officers and black soldiers—the non-commissioned officers and privates of British regiments serving in Africa being recruited from the negroes of the West Indies.

There are three companies of a West India regiment, always short of their complement, which compose the garrison of the settlements, being distributed among the stations comprising McCarthy's island, 175 miles up the river; Fort Bullen, on the Barra shore, opposite to Bathurst; Cape St. Mary's, eight miles distant, in the kingdom of Combo ; and Bathurst, the seat of government.

The government, as in that of all the British colonies in Africa, is administered by a governor and legislative council, whose acts are sent home for royal approval. The Europeans resident here number about forty, including officers, merchants, some Wesleyan missionaries, two or three ladies, and as many of that celestial band, the Sisters of Charity. The rest of the population number about 2,000; consisting of Africans, mostly Jaloffs, Mandingoes, some Foulahs, and an occasional Moor who has strayed down from the interior. Amidst many discordant sounds, the ear of the stranger, as he walks through the market at Bathurst, will be struck occasionally by accents from female lips, which he will at once pronounce the softest and most melodious he ever heard. There is a plaintiveness in the tone, and a music in the flexure of the voice, which is indescribable. I could not learn of what tribe the speakers were, for it is more difficult to designate the country of the female than of the male.

The Mandingo language is considered more melodious than that of the Foulahs, while the later is said to be more copious and to possess a structure which would indicate a former high condition of the race.

Seen through the foliage of the trees in front, the buildings of the town present an imposing and beautiful appearance from the harbor. The habitations of the natives are huts made of cane, wattled around slender uprights and plastered, many of them inside and out, with mortar. Those of the poorer classes are plastered with mud. The huts are usually in the form of a parallellogram, from 16 to 20 feet long, by 12 to 14 wide, and the walls from five to six feet high. The roofs are

conical, formed of light poles meeting in the centre, and thatched with the long grass of the country.

The huts are not built in regular rows, each one fronting on the street, one for each family; but are many of them in enclosures of wicker work, containing two or three or more huts, according to the number of wives of the proprietor. These huts very much attracted my attention, and I visited several of them, each usually containing one or two beds made of mats, spread on fixtures to the wall, a few chairs, and a table, on which was exhibited the household crockery. Excepting that they are better finished, these huts are, I am told, fair specimens of those in the neighboring country; but the bed-fixtures, the chairs, the tables, and the crockery, are the results of close contact with civilization. The native inhabitants of the town are nearly all Mohammedans—some few are Pagans; but, so far as I could learn, there was not an adult Christian among them. Nearly all wear gree-grees or charms, consisting of a bit of camwood, a tooth of some wild animal, or a sentence from the Koran, cased in skin. Their dress is flowing and very graceful, consisting, with some slight variety, of a white cloth wrapped around the loins and extending to the knees, and another with an aperture for the head, resting upon the shoulders, like the bernoos of the Syrian horseman.

The Jaloff is the tallest race of men I have ever seen, and forcibly reminded me of the fabulous accounts of the Patagonians. They inhabit the vast district extending along the coast from the Gambia to the Senegal. Their frames are rather slight than muscular: they are coal-black in their complexions, and have the short, crisped hair peculiar to the negro race; but have not the thick lips, flat nose, and low, receding forehead which, in our ideas, are associated with the fetaures of the African. On the contrary, with the Caucasian, they have prominent noses, and their foreheads are high but narrowing at the temples. Each one carries himself as stately as if he were a monarch—the women as much so as the men, and with the same proportion as elsewhere, in the respective size of the sexes. I am not alone in the opinion that the females are, on an average, as tall as men are with us. It is a very interesting race. The Europeans here represent them as easily managed by gentle means, but exceedingly dangerous when provoked, and as being very expert in the use of fire-arms. In point of stature they correspond with the Berri, a tall race of men towards the other side of the continent. The Jaloffs are high-toned and courteous; and, in contradistinction to the other tribes, are called by foreigners the "gentlemen of Africa."

The Mandingoes are from the banks of the Gambia, from Manding down to the coast. It is a numerous and powerful race, with more of the characteristic features of the negro than the Jaloffs. They are represented as lively in their dispositions, prone to traffic, and with some taste for literature—a literature confined to the Koran. It is said they read no other book, and are taught no other lessons in their schools but an unmeaning repetition of its laws and precepts. I question the correctness of the assertion. The songs of the Jelli, or singing men, would bespeak a higher intellectual cultivation. Mr. Laing visited in 1822 *the walled town of* Kakundi, in the country of Melicouri, and was there

introduced to King Yaradee, one of the chiefs of Sulima. On that occasion was recited the following song, which is almost as poetic and far more genuine than the fabled poems of Ossian. It commemorates an advantage gained by Yaradee over the Foulahs, at the time when ten thousand of them, headed by Ba Dembah, laid siege to Falata:

"Shake off that drowsiness, brave Yaradee, thou lion of war! Hang thy sword to thy side, and be thyself! Dost thou not behold the army of the Foulahs? Observe their lines of muskets and spears, vying in brightness with the rays of the departing sun! They are strong and powerful; yea, they are men! and they have sworn on the Al Koran that they will destroy the capital of the Sulima nation. So, shake off that drowsiness, brave Yaradee, thou lion of war! The brave Talaheer, thy sire, held the Foulahs in contempt. Fear was a stranger to his bosom! He set the firebrand to Timbo, that nest of the Islamites; and, though worsted at Herico, he scorned to quit the field, but fell like a hero, cheering his war-men. If thou art worthy to be called the son of Talaheer, shake off that drowsiness, brave Yaradee, thou lion of war!

"Brave Yaradee stirred. He shook his garments of war, as the soaring eagle ruffles his pinions. Ten times he addressed his gree-grees, and swore to them that he would either return in triumph to the sound of the war-drum, or that the cries of the Jelli should bewail his fall. The war-men shouted with joy.

"Behold! he shakes from him that drowsiness, the lion of war! he hangs his sword by his side, and is now himself!

"Follow me to the field! exclaimed the heroic Yaradee! Fear nothing! for, let the spear be sharp, or the ball be swift, faith in your gree-grees will preserve you from danger. Follow me to the field; for I am roused, and have shook off that drowsiness. I am brave Yaradee, the lion of war! I have hung my sword by my side, and am myself. I have shook off that drowsiness. The war-drum sounds, and the sweet notes of the balla encourage warriors to deeds of arms. The valiant Yaradee mounts his steed! His headmen follow! The northern gate of Falaba is thrown open, and they rush from it with the swiftness of leopards. Yaradee is a host in himself! Observe how he wields his sword! They fall before him! They stagger! They reel! Foulah men! you will long remember this day! for Yaradee has shook off his drowsiness, the lion of war! He has hung his sword by his side, and is himself."

By way of contrast of the turn of thought and mode of expression, I give the account of a Bornou man, related by himself:

"My years were eighteen. There was war. At that time my mother died. My father died. I buried them. I had done. The Foulahs caught me. They sold me. The Housa people bought us. They brought us to Tomba. We got up. We came to the Popo country. The Popoes took us. To a white man they sold us. The white man took us. We had no shirts. We had no trousers. We were naked. Into the midst of the water—into the midst of a ship they put us. Thirst killed somebody. Hunger killed somebody. By night we prayed. At sun-time we prayed. God heard us. The English are good. God *sent them. They* came. They took us. Our hunger died.

Our thirst died. Our chains went off from our feet. Shirts they gave us. Trousers they gave us. Hats they gave us. Every one was glad. We all praised the English. Whoever displeases the English, into hell let him go."

The Mandingoes manufacture cotton cloths, and dye them with indigo and other vegetable dyes in colors so fixed as to resist, it is said, the action of acids, and light—a quality surpassing that of any other known dye-stuff in the world. The Mandingo indigo-plant, as it is here called, has a deep-green leaf, with a number of spear-shaped leaflets along the sides of a common leaf-stalk, opposite to each other and abruptly winged, and may therefore be classed among compound leaves. From thirty leaves of this plant, nearly an ounce of pure indigo has been obtained. The Mandingoes are skilled also in the tanning of hides, and the preparation of leather; and the specimens which I saw of their bridles, whips, pouches, sword and dagger sheaths, and powder-horns, far surpass all I had conceived of native manufacture.

The Foulahs or Fellatas are rigid Mohammedans, and are very distinct from the Jaloffs and Mandingoes. They sustain the remark that the inhabitants of an inland country are of lighter complexion than those who reside on the seacoast in the same parallel of latitude. They are lighter-colored, their noses are more prominent, and their general features partake more of the Nubian than of an African tribe bordering on the great desert.

There is an ancient tradition cherished by them of their being descendants of a white race, and they have often assigned it as a reason why they should have no interests conflicting with those whose origin they regard as the same with their own. Those seen at Bathurst are from the countries north and south of the Gambia, above McCarthy's island. Although they have made a few settlements on the southern bank, they do not, in general, evince a taste for agricultural pursuits. They are warlike shepherds, and are overrunning Western and Central Africa with as much zeal, and with equal success, as the Saracens did the northern shore of the continent in the seventh century. They are ever at war, and warring but to conquer; with the sword and the Koran they exterminate paganism wherever they appear.

At the close of the last century there was not a Mohammedan south of Cape Verde or west of Footah Torra. Now, of the two millions of inhabitants occupying that country, two-thirds are Mohammedans. At present, a religious war is raging within two miles of Bathurst; and the English officer, in his evening ride, can hear the report of fire-arms and the uproar of battle. Not long since the combatants approached so near that their bullets struck the barrack-wall and the houses and fences of European residents. I have mentioned a French squadron fitting out in Goree for the purpose of attacking a tribe lower down the coast. The circumstance was related in the presence of the governor here; and an officer of the garrison, who had just arrived upon the station, remarked, that in his opinion one small steamer and a hundred men would be sufficient for the purpose. "Far from it," replied the governor; "and you will think so, too, when you have been longer in Africa. There are, at this moment," he added, "people within fifteen *miles of us* whom we dare not attack."

The Foulahs have warred against the Tauriyacks in the north, and the negroes of Bambara in the south. With the Jaloffs and Mandingoes, they occupy much of the western coast; and in the interior of the continent have subjugated Yoruba, Nyfee, and Housa. They now extend from the Atlantic to the Niger, and from the Senegal to within a few days' march of the Gulf of Guinea; and within the present century have founded Soccatoo, the capital of their empire. Wherever they have settled, pagan idolatry is said to have disappeared, and human sacrifices are abolished. In one respect their success will check the traffic in slaves, and thus prove beneficial to humanity. By their civil code, derived from the Koran, it is forbidden to enslave any one born of free parents, and professing the religion of Mohammed; and the slave of a kafir, by embracing Islamism, becomes, *ipso facto*, free.

By the abolition of human sacrifices, and the substitution of the worship of the true God for that of senseless idols, the Foulahs are unquestionably ministers of good to Africa; but it may be doubted whether, under the Mohammedan rule, that country will present less difficulties than at present to the advancement of Christianity within it. The theology of Islamism is unexceptionable. "Obedience leads the way to heaven; fasting and self-denial give it rapid progress; and alms-deeds open the door."

But, unhappily, all kafirs—a term embracing Christians and infidels—are excluded from their charity. Intolerant in their bigotry, the very exercise of what they believe to be virtues begets a spirit of self-righteousness, which may prove the greatest obstacle to their conversion.

The commerce of the Gambia, already great, is rapidly increasing. Bathurst is the port of entry for all the settlements on the river, except the French colony of Albreda. There are no discriminating tonnage duties; and, except sixpence per gallon on wines and spirits, and one farthing per pound on tobacco, the import duty on all goods, British and foreign, is four per cent. A comparison of the official returns of 1840 and that of 1851 (the last rendered) will convey an accurate idea of the advance of commerce.

In 1840 the foreign tonnage entered was 6,922 tons, and that of 1851 was 21,596 tons; while the difference between the aggregate imports and exports was $325,000. This difference is annually increasing, and the exports of 1851 exceeded those of the preceding year $120,000. In 1835 there were but 47 tons of ground-nuts raised on the Gambia. In 1845 the trade in that article commenced, and it was exported to the amount of $995. In 1851, including 1,000 tons from Albreda, there were upwards of 12,000 tons exported, amounting to $720,000, one-fifteenth of which found its way to the United States, and about the same proportion to Great Britain. Nearly five-sixths of the whole amount is exported to France, where an oil is expressed from it, which is used for the table and for supplying lamps. It is much esteemed, and is said never to become rancid.

It will be perceived that extra duties are levied on the principal articles imported from the United States. But it is not fair to infer that they are imposed in a spirit of illiberality. No man, who is a friend to

his race, would regret, if the tax on New England rum and all intoxicating drinks amounted, everywhere, to a total prohibition. As for tobacco, the very light duty imposed aids the revenue, while it does not lessen the importation; for it is an indispensable article in the African trade; and whatever he sells, the native requires a part of the payment to be made in tobacco. Of this staple of our country, we last year imported into the Gambia one and a half million pounds. Our other imports for the same period included one thousand barrels of flour and two hundred and fifty thousand dollars' worth of cotton goods, besides salt provisions, hams, potatoes, furniture, shoes, hats, &c., to a large amount. Hides form a considerable portion of the exports, and are sent almost exclusively to our country; and at least one-fourth of the imports are from the United States, exclusive of the tobacco brought in vessels of other nations.

Leaving the Gambia, we stretched a little from the land, to pass outside the Isles de Los, and steered our course for Sierra Leone. The coast is low and thickly wooded, with occasional clumps of trees showing above the surface. These clumps, alone visible at times above the misty exhalations of the land, like the hillocks of Cape Verde, resemble islands in the distance. With these interruptions, the scene inland was as level and monotonous as that to seaward. On the one hand an unbroken mass of foliage, and on the other a slumbering sea, with a mist brooding over it, which narrowed the limits of the horizon.

Our passage was a long and tedious one, and the weather was most relaxing. By day we had light and fitful airs, which scarce agitated the hazy atmosphere through which the rays of the sun penetrated with scorching heat, while the eye shrunk in pain from the glare of light. During the night calms mostly prevailed, but the heated air kept evaporation suspended, except when the wind shifted to the north, and then the dew was copious. Notwithstanding the heat was most trying to the system, the average temperature was only 83°. Our progress was as much accelerated by a southerly current as by wind and canvass. In our course we passed the mouths of the Rio Grande, the Nunez, and the Pongo. The former is more a deep bay, with numerous islands, than an estuary; the two latter are considerable rivers, which flow from the interior in many intricate channels, connecting with each other, which, while they increase the difficulties of navigation to vessels of burden, extend to the inhabitants great facilities of intercommunication.

A vessel drawing twelve feet water can ascend the Nunez sixty miles to Kakundy. The town of Tallabuncia, about four miles from its mouth, is described as being situated in a plain, and beautifully shaded with lofty palm-trees, and a great profusion of the lime, the orange, the plantain, and the banana. The men inhabiting it are strong and well formed, but of a savage appearance, having their breasts and arms tattooed, and are almost destitute of clothing. Large holes are pierced through their ears, in which are inserted bits of coarse grass. The appearance of the women is still less attractive. At the commencement of the rains the locust tree on the Nunez ripens its fruit, which hangs in clusters from its branches, and furnishes a great part of the food of the natives at that season.

The coast from the Nunez nearly to Sierra Leone was, until the early part of this century, inhabited by the Soosoos, who drove from it the aboriginal tribe, only leaving them a few settlements along the shore and on the island of Tamara, the largest of the Isles de Los.

The Soosoos are patriotic and brave, determined enemies of Mohammedanism, and subject to no superstition which would not readily yield to the light of Christianity. Their notions of the Deity are extremely vague, and it can scarcely be said that they have any religion. They have some obscure idea of an omnipotent power, and pay respect and homage to departed souls—honoring, with solemn rites and offerings, the manes of their ancestors. They are accustomed to visit certain spots consecrated to the dead, and deposite some portion of their food and call over the names of their deceased friends.

Hospitality is a virtue for which the Soosoos are distinguished; and the stranger, it is said, never passes through one of their villages without being invited to take rest or refreshment. Should the reigning king, in the opinion of a majority of the chiefs, prove too weak for his trust, or should age unfit him for the discharge of his duties, by an act of peculiar significance he is called upon to retire. A messenger presents to him a silver basin containing a piece of white paper. If the king places his royal turban in the basin, he may descend, without disturbance or danger, to the walks of common life, and there enjoy the respect and affection of his countrymen; but should he refuse to comply with this peaceful request, he retains his turban and manifests his resolution to defend it, by sending back in its stead a piece of scarlet cloth, with powder and ball. This is the signal for civil war.

The Soosoos have been dispossessed of a great portion of their territory by the Mandingoes, who occupy the country between the recent conquests of the Foulahs and the sea.

Somewhere in that territory are the Loubies—supposed to be descendants of the Lencothiopes of Ptolomy and Pliny. They are represented as a degenerate race—poor and squalid in appearance—who neither cultivate the soil nor follow pastoral pursuits, but manufacture wooden bowls and other trifles, and carry on a petty traffic with the Mandingoes.

The language of the Bulloms and that of the Timmanees, who occupy the shores of the river Sierra Leone, are said to be harmonious to the ear, but surpassed in sweetness by the dialect of the Soosoos. The Mandingo language is more difficult than either to acquire; and, in consequence of abounding in gutturals, is harsher in pronunciation.

In consequence of light winds and calms we had a long passage to Sierra Leone. The river of Sierra Leone discovered by Pietro de Cintra, in 1462, and formerly called the Mitomba, is formed by the junction of four streams—the Bunce, Rokelle, Porto Lago, and Mahara—and falls into the sea in north latitude 8° 30′, and west longitude 13° 43′. The name "Sierra Leone" was given to the mountain range south of the river from the fancy that the loud reverberation of thunder in the valleys resembled the roaring of lions.

The peninsula, which breaks down suddenly at the river's mouth, is very lofty compared with the opposite shore, and stretches inland to the *southeast in a range which soon* reaches an elevation of more than

2,000 feet. The range is not uniform; but presents on the north side detached hills, with valleys between, that increase in width as they descend and sweep down towards the river; before reaching which they unite in a rolling and luxuriant plain, varying only in the character of their foliage. The valleys and hill-tops were clothed with luxuriant verdure when we saw them. As viewed from the sea, the scene was picturesque and imposing: on one side a low shore, stretching away to the north, which looked dark in its dull uniformity of green; on the other the lofty mountain range, showing above the mist which rolled up from the valleys and gathered around its waist. The scenery is that of paradise; but beneath its beauty, like the serpent concealed amid flowers and foliage, lurks the deadly venom which is developed in the rainy season, when its earliest and its surest victim is the white man.

Now, it is comparatively healthy; and the Europeans of the place, as well as those of Bathurst, forget the alarms and fears of the past in the enjoyments of the present. The river Sierra Leone is, like the Gambia, divided into two channels; but the southern and principal one is narrow, owing to an extensive shoal along the northern shore.

In approaching the harbor the scenery softens into the beautiful. The breeze which daily sets in to temper the heat of the sun, wafts masses of clouds from seaward; which, in passing over, cast their shadows upon the swelling hills and outstretching valleys.

At home, we sometimes behold the foliage of the trees wearing rich autumnal tints, while the grass beneath is green; but here it is reversed: the grass is embrowned by the want of moisture at this season; while the trees, their roots striking deeper into the soil, retain their tropical verdure. And this tropical character is enhanced by the frequent palm-tree—the ancient and acknowledged symbol of fertility.

Between the cape and the anchorage off the town, there are many ferruginous rocks scattered along the shore: but the rugged appearance is relieved by two placid little bays, into which empty some small streams, fringed with shrubbery; among which we could not detect the fever-engendering mangrove. The ferruginous soil, the rounded summits of the mountain range, and the small pieces of lava brought up by the lead in sounding near the Banana islands, which lie abreast of it, all indicate a volcanic origin.

Here and there, on the hill-sides and throughout the rolling plain, are cultivated spots, with pretty cottages embowered in foliage, which become more and more frequent in approaching the town. Freetown is built on the northern declivity of the mountain, which towers 2,600 feet behind it—a beautiful, but most insalubrious position; for the high lands exclude the sea-breeze from the quarter whence it blows in the sickly season, and from the swampy shore on the other side is borne, by the land-breeze, the miasmata which is so deadly to the white man. One can scarcely realize that death can be shrouded in so much beauty.

The soil in and around the town is formed of a brittle rock, consisting of sandstone and a combination of iron with oxygen, having a strong magnetic quality.

In the centre of the town are the stores and dwellings of the Euro*pean residents* and principal native merchants, flanked on one side

by Krootown, and on the other by populous villages of liberated Africans.

The whole is well laid out, and the principal streets broad and rectangular. The houses in the centre town have generally a superstructure of frame, on a basement of stone. They are mostly surrounded by covered galleries, having trellis-work in front; and are detached from each other, with many trees around them. The dwellings of the Kroomen, who resort here in great numbers for employment, and those of the liberated Africans, are similar to the huts at Bathurst in their construction; but, unlike them, they are built in lines with the streets, and not in detached courts.

Some of the Africans reside in the centre town in well-finished houses, and own considerable property. One of the most extensive merchants of the place is a native of the interior. Many of the natives keep small retail shops; but some of their stores are as attractive as those of Europeans; and those who keep them import their goods from England, and export, in return, large cargoes of timber. The blacks are as eligible as whites to all civil and municipal offices—mayor, alderman, sheriff, &c. Some years ago, the governor of the colony was a colored man; and a very intelligent one, with whom I became acquainted, held the situation of colonial chaplain.

Many of the negroes residing in the place are well clothed, presenting quite a contrast to some of the natives of the surrounding country, each with a single garment girt about his loins. The Mandingoes, however, and the natives from Matakong, with the products of their manufacturing skill, twisted and stamped gold rings, and pouches, bridles, and sword-cases of leather, look well in their long white or blue garments, thrown over the head and resting upon the shoulders.

The public buildings in the centre town are the church, the jail, the custom-house, and the commissariat, built of the ironstone of the country, none of them imposing in appearance. Half-way up the elevation, immediately back of the town, is the governor's house, occupying the site of a fort, and less imposing even than the public buildings below it.

A short distance above and beyond the governor's is the hospital, a plain building, in a bad position; and crowning all are Tower Hill barracks, composed of three massive buildings, capable of accommodating 2,000 men. At present there are but 200 troops in the garrison, composed, as at the Gambia, of English officers and black soldiers.

The view from the balcony of the officers' quarters is commanding and superb. The town is spread out in front and on each side. The native huts stretch far up the plain beyond the barracks, and look beautiful in their long lines ot streets, so perfectly shaded by orange, banana, and pawpaw trees, that, in places, the walls of huts are alone visible; the brown roofs being concealed by the lofty branches. But there is a drawback to the view on the eastern side—the large and well-filled grave-yard at the head of the valley. In 1833, the population of Freetown was 7,000: it is now 18,000; and that of the whole colony was, in 1851, 44,500.

The population is a very mixed one, consisting of Europeans, Nova-Scotians, *liberated Africans and* native Creoles, West Indians, Americans, *(colored,) Kroomen, and* natives of the district. The liberated

Africans and native Creoles comprise ten-elevenths of the whole number. The creeds are as various as the races: commencing with the largest number professing them, they are Wesleyan Methodists, Episcopalians, Pagans, African Methodists, (seceders from the Wesleyan,) Lady Huntington's connexion, Mohammedans, Baptists, Catholics, Presbyterians, and Jews.

The costumes of the inhabitants are as various as their creeds and complexions; the latter ranging from the ruddy cheek of Caledonia to the sable brown of Egypt; the former, from the superfluous garments of civilization to the *puris naturalibus* of barbarism. Generally, the adults are partly clad—the women more so than the men, although some of them have only a cloth around their loins. The young of both sexes under twelve years of age generally go naked; but some have adopted the European dress.

As a love of ornament is a characteristic of the African race, there is reason to hope that, as they lose their reverence for gree-grees, they will appropriate the money heretofore expended for them to the purchase of petticoats and trousers. In such a heterogeneous society, however, the reformation cannot be a rapid one. So long as there were frequent accessions to the population from the slave-ships captured by English cruisers, there was but little progress made in the introduction of the manners and customs of the whites. Now, however, that the horrible slave trade is, or seems to be, extirpated from these latitudes, the present population will, day by day, yield their prejudices and propensities to the influences of Christianity and civilization; but, for the thorough reformation we must rely upon the missionary and the schoolmaster acting upon the rising generation. Daily, hourly, that influence is now being exercised by humble but heroic men; of whom, without exaggeration, it may be said that they deliberately perish, in order that others may live.

There seems to be much activity evinced in clearing the land of its dense undergrowth in the vicinity of the settlements; thus contributing, at the same time, to beautify the face of the country and promote the health of its inhabitants. The whole colony is intersected by excellent roads, forming long, narrow vistas, overshadowed and beautified by the palm and the banana—with hedges of the coffee plant, the leaves of the latter a rich and vivid green. These roads measure seventy miles in length, and are continually repaired by the liberated Africans.

The Bullom tribe occupy the northern shore of the river, and give their name to the district they inhabit. The Timmanees were the original inhabitants of the peninsula of Sierra Leone, and they still reside in and around it. They are described as indolent and licentious. There is a tradition that they were preceded by the Aiguas, who worshipped the thunder-bolt. During thunder-storms they are represented as coming forth from their huts, and by shouts and songs welcoming their deity. On one occasion a pregnant woman was killed by lightning; and far and near the worshippers came in, exulting that with one bolt two were killed.

It is a custom among the Timmanees, as also of many other tribes of *Western Africa*, to throw a small portion of whatever they eat or drink

upon the ground, as an offering to the dead. The bodies of their kings are deposited in charnel-houses, which are never opened; but there are small apertures through which cooked provisions and palm wine are introduced, the Timmanees believing that they are consumed by the dead. They have houses near their towns, in which are images, skulls, shells, &c., in which their divinities are believed to reside.

I first saw here the cola or gorra-nut, so frequently mentioned by Park, Clapperton, and the Landers. It is the seed of the *Sterculia acuminata*, resembling the horse-chestnut in appearance and growing in pods, four or five together. It is exceedingly bitter, but is considered an excellent tonic by the natives. It has an unquestionable peculiarity. After chewing one, tepid and slightly brackish water tastes sweet and refreshing. The locust tree of this country is very beautiful—covered when in blossom with vermillion-colored flowers, which are followed by pods containing a farinaceous substance, of which the natives are very fond. In the yard of one of the colonists I saw a bread-fruit tree, large and umbrageous, but without fruit, it being too early in the season. The British government might have transplanted the bread-fruit tree from this vicinity, instead of sending to the South Pacific for it. Limes, oranges, plantains and bananas, with other tropical fruits, are abundant in the market. Of fish there was no scarcity; and there seemed a sufficiency of indifferent beef and mutton to supply the limited demand. There was no great variety of vegetables, the cassada, yams, and sweet potatoes being the principal; and poultry was rarely seen.

The movement which led to the first settlement of Sierra Leone originated with the Society of Friends, and the first colonists consisted mostly of London prostitutes and refugee slaves from the United States. The object was humane, but the means adopted most injudicious. Fortunately for the credit of the Christian name in a heathen land, nearly one-half died or fled from the colony in a few months; and in less than a year an African chief destroyed the settlement, and the whole were dispersed. Another colony was sent out and the town was rebuilt, but soon after destroyed by the French. A third time settled, it has, with occasional trying vicissitudes, gone on increasing, until it has become an important colony and the principal of the English settlements in West Africa. It was formerly under the charge of the African association, during which it suffered much from mal-administration of its affairs; but since the government has assumed the control and exerted itself strenuously and successfully in suppressing the slave trade, there is said to be a decided improvement in the character and habits of the blacks. Many of them are well clothed, and all of them are well behaved; perfect order throughout the town is preserved by policemen appointed from among them, each one distinguished by his badge of authority. I heard no quarrelling, and among them saw no intemperance.

The trade of Sierra Leone, like that of the Gambia, is fast increasing. From the official return to the British Parliament, the number of vessels reported inwards at the customs of this port for 1851 was nearly double that of the preceding year; and the amount of tonnage entered shows an increase of 50 per cent The imports from the United States amounted, in 1851, to $83,000; in 1852, to $98,000.

But, in the words of the "official returns," "a very large proportion of the exports are not reported; it being a well-known fact that very many vessels load annually in the neighboring rivers with produce, for various parts of the world, and on account of the resident merchants of the colony, but which are, nevertheless, not cleared outwards at the custom-house; and, consequently, no returns of their cargoes can be included in the return of exports, which only shows the exports of those vessels cleared by the customs."

The exports for 1852 were:

800,000 bushels ground-nuts, valued at ($\frac{9}{10}$ to France and $\frac{1}{10}$ to the United States.)	$440,000
400,000 feet timber—to England; valued at	500,000
500,000 hides—to the United States; at $1 each	500,000
300,000 gallons palm oil, at 33⅓ cents ($\frac{1}{4}$ to the United States and $\frac{3}{4}$ to England.)	100,000
200 tons pepper, valued at ($\frac{1}{3}$ to the United States and $\frac{2}{3}$ to England.)	400,000
600 tons ginger, valued at ($\frac{1}{3}$ to the United States and $\frac{2}{3}$ to England.)	600,000
Beeswax not rendered—estimated at	90,000
Total	2,630,000

A letter received from Sierra Leone since my return here, reports a large proportionate increase for the first quarter of the present year; but as it is not official, I withhold it. It will be seen that the *reported* exports very much exceed the imports; and the inference is, that all of the latter, as well as the former, are not entered at the custom-house, but distributed in the neighboring rivers.

Leaving Sierra Leone for Monrovia, with a fair wind, we passed Sherbro island and the Shebar and Gallinas rivers, and on the second day made Cape Mount.

The country between Sierra Leone and the Sherbro is covered with timber, much of which is annually exported. With the exception of about ten miles along the coast, the Shebar is now the northern boundary of the republic of Liberia. This river is properly an estuary of several rivers; and on the island between it and the sea, the first attempt was made to settle a colony of colored people from the United States. The Boom Kittam river, up which we have a considerable trade, flows in here from the southeast. A short distance up the stream is the Mendi mission, established by our countrymen. They complain that they have frequently been much incommoded, and that once or twice their property and their lives were endangered by the cupidity of the native chiefs. They at one time considered that they owed their preservation to the timely interference of the commander of an English ship-of-war. This is not the only instance which has come to my knowledge of the assistance rendered by officers of the royal navy to our citizens trading to or residing in Africa.

In an isolated position, like that on the Boom Kittam, it seems to me *that one of our* cruisers should occasionally visit it, for which purpose,

as for many others connected with the suppression of the slave trade and the protection of American lives and property, one or two steamers, of light draught of water, should be attached to our squadron on the coast.

The Mohammedan religion was introduced into this district of country in the early part of this century, by missionaries from Coroango and Toubah.

De Cintra, sailing down the coast from Sierra Leone, discovered the river Gallinas, to which he gave the name of Rio del Fumi, because he saw nothing but smoke along the shore. Until recently the mouth of this river was the most notorious slave mart on the western coast. The factories were destroyed in 1849 by Commander Denham, R. N.

Through the joint liberality of two philanthropists—an Englishman and a citizen of the United States—the territory was subsequently purchased from the neighboring kings and annexed to the republic of Liberia; and in May, 1852, the Cassa territory, which adjoins Gallinas on the north, was also purchased, making the Shebar the northern boundary of the republic.

From Gallinas to Cape Mount, along the coast, and extending about thirty miles inland, is the territory occupied by the Veys, a warlike tribe, numbering from ten to twelve thousand, heretofore actively engaged in the slave trade. They are said to be separatists from the Mandingoes; and some of them are Mohammedans, and possess a degree of intelligence, and are more highly civilized than the Deys and other tribes to leeward.

Their language has been reduced to writing by syllabic characters, and has a strong affinity to that of the Deys.

Sharks hover about the mouths of rivers on the coast; and, during the activity of the slave trade, were particularly numerous at Gallinas bar, on the watch for the frequent upsetting of the canoes which transported slaves from the shore to the vessels in the offing. In 1849, a captain of a vessel lying off Gallinas, who had visited the shore, for a long time feared to launch his boat to return on board, in consequence of the great number of sharks he saw swimming about. When he had embarked, they pursued him so closely that he could strike them with his oar.

As an instance of the rapacity of the shark, and the cruelty of one of our countrymen, Dr. Savage relates, that in 1837 a native boy belonging to Tabou, about forty miles to leeward of Cape Palmas, was taken on board of an American brig, to act the part of cabin-boy. Having offended the mate on one occasion, he received a severe chastisement, and rushed down into the cabin for protecti n from the captain, who was busily engaged in writing; but the latter, provoked at such an abrupt intrusion, began also to beat him. The poor boy now retreated to the deck, pursued by the captain, and encountering the mate in a threatening attitude, he ran towards the bow of the ship. The captain followed him, pouring forth his oaths and imprecations. The little fugitive, finding no way of escape, sprang upon the bowsprit and leaped into the sea. Here, hanging to the cable, without daring to ascend, he began to entreat the compassion of his Christian employer, who stood leaning over the bow, shaking his fist and threatening vengeance on his head if he attempted to come on board again. It c

hardly be supposed that the captain *intended* to prevent his final ascent; but he *did* prevent it in the end. For while the boy was pleading for his mercy, two sharks were seen to approach, and, each grasping at a leg, rent his body asunder. The next moment the captain saw only the bloody wave swashing against the bow of his ship.

Of the horrors of the slave trade, few have a distinct conception. A single instance, which occurred in this locality, will give an idea of the reckless barbarity which attends it. Prior to recent treaties, English cruisers could not capture vessels of other European nations along the coast, (and cannot now American,) unless there were actually slaves on board. In 1830 his Britanic Majesty's ship "Medina" gave chase to a suspicious sail hovering off the mouth of this river. On board of the latter was a female slave, whose presence, as much as that of hundreds, would insure the capture and condemnation of the vessel. As the most effectual means of removing the poor wretch from sight—for even her dead body would bear damning testimony—she was lashed to the anchor, and with it cast overboard. The search was thus baffled, and the slaver allowed to pass unmolested.

Cape Mount, in latitude 6° 44′ N., is a bold and sudden elevation, densely wooded to the summit, which is 1,060 feet above the level of the sea; and it towers over the surrounding country, except in the south-east direction, where a chain of hills stretch inland until they are lost in the distance.

Cape Mount, as well as the Gallinas and Sierra Leone to the north, and Cape Mesurado to the south, were discovered by the same Portuguese navigator, who saw here, as Hanno and his Carthaginians had seen before, many fires on shore, made by the natives, some of whom came off to the ship in canoes, two or three in each. They were all naked, and armed with wooden darts and small knives, bows, and shields. They had rings in their ears; and, according to the narrative of Cada Mosta, in their nostrils also, and wore the teeth of slaughtered enemies suspended from their necks, as trophies.

The eastern base of Cape Mount is washed by Fisherman's lake, ten or twelve miles long, formed by the outspreading of the irregular and sluggish river Pissou, which flows down from the interior, and only finds an outlet when its rising waters overflow a depression in the barrier of sand thrown up by the sea. The shores of the lake, and the banks of the river, are covered with luxuriant vegetation, except here and there a clearing occupied by villages and rice-fields. The huts resemble so many bee-hives on a gigantic scale.

It was here that Pedro Blanco had his extensive slave factories. Besides other goods, he imported, in 1841, 1,800 hogsheads of tobacco, and annually shipped from six to eight thousand slaves; and considered it a good speculation, if one out of four of his vessels reached its destination unmolested.

Twenty miles from Cape Mount is Half-cape Mount river, which, in part, belies its name; for it is a fine river, flowing through a level country, uninterrupted, as far as the eye can see, by the slightest elevation.

From Cape Mount to Cape Mesurado is the Dey country, cut up in *small districts, held* by petty kings, who, while outwardly acknowledg-

ing the jurisdiction of the republic, are continually holding palavers; i. e., quarrelling among themselves. The word "palaver," with a great many phases to its meaning, generally implies a discussion, to decide upon a right assumed, or a right disputed; or indemnity for a wrong; or the enforcement of a contract. In fact, it is the court of law of the tribes, and suits are brought before it.

The Deys, more tractable but not more trustworthy than the Veys, are somewhat given to agriculture, and possess considerable mechanical skill in the weaving and dyeing of cotton cloths, and the manufacture of household articles and instruments of warfare. They are considered less numerous than the Veys, and are a more indolent and inoffensive race, numbering from 6,000 to 8,000. The dialect of these two tribes has some affinity, but differs from other languages along the coast. Although very imperfect, the missionaries have succeeded in reducing it to significant characters, and translating into it a compilation of the gospels.

At day-light, on the 31st of January, we made Cape Mesurado, dimly visible through a thin white mist which shrouded the horizon. The mist, hanging over the lowlands, but not rising above the tops of the trees, gave to the scene very much the appearance of a general inundation. We soon after heard the splashing of paddles in the water, and in a few moments a number of canoes came swiftly forth from the obscurity, and revealed two or three natives nearly naked, sitting upright in each, and handling their paddles with great dexterity. These canoes are dug out of the bombax ceiba, the pullam or wild cotton tree of the country, and being very light, narrow, and long, with a slight upward curve at each extremity, float buoyantly and gracefully upon the water.

As we slowly sailed along, the mist in the meanwhile rising with the sun, the surrounding scenery, feature by feature, was unveiled, and by the time we cast our anchor in the bay the whole was distinctly revealed.

Abreast of us was a lofty promontory; a little beyond, and partly hidden by it, was the town of Monrovia; and to the east and north a densely wooded country, its sandy shore interrupted only in two places, where the rivers Mesurado and St. Paul's find outlets to the sea—those outlets marked by the foam of breakers flashing in the sunlight.

The pitch of Cape Mesurado is gently rounded; but its face is abrupt, and would present a rugged appearance, were it not covered with a mantle of the richest green I have ever looked upon, resembling, if anything, the hue of lichens and mosses in some sequestered ravine, from the sides of which water imperceptibly trickles. Except a very narrow strip of beach, with a few outlying rocks at the very water's edge, all is one mass of foliage—tangled vines and shrubbery beneath, but above a dense growth of trees, becoming more and more lofty, until those on the summit rear their heads above and half conceal the light-house, an indifferent frame building, stained and defaced by the weather; which, except in its greater height, recalls to mind one of those narrow and neglected tobacco-houses so often seen in our southern *States*.

In the dense thicket which crowns the Cape was formerly a Fe

house, where the natives worshipped some hideous idol; and on the naked rocks, near the extremity of the Cape, was found, in September, 1823, the carcass of a boa constrictor. It was extended nearly at length, and measured thirty-two feet. Its size, near down to the tail, was almost uniform, and, in its then collapsed and shrivelled state, varied little from eight inches in diameter. Its color, when alive, seemed to have been dark brown, variegated with irregular patches of a darker hue. It had apparently perished from starvation.

The anchorage is an open one; but the winds rarely blow fresh upon the shore, and the only danger to shipping is a heavy sea which sometimes comes tumbling in without the slightest premonition. The ridge of highland, the rounded extremity of which forms the Cape, trends inland, in a diagonal line from the coast; and on a depression of that ridge, about half a mile from the light-house, the principal part of the town is built. But many houses are scattered about on the inland slope, at the foot of which are several stone warehouses, facing the broad sheet of water formed by the junction of Stockton creek coming down from the north, and the river Mesurado from the east. A stone's throw from the shore is Carey island, on which the settlement was first made; where the colonists were obliged, with arms in their hands, to procure water for their daily use. Stockton creek separates Bushrod island, a densely wooded flat, from the main land; and connects, at its northern extremity, with the river St. Paul's, one and a half mile from the mouth of the latter.

Just within the swell of the Cape, in a kind of bay, where, except in northerly winds, the sea breaks gently upon the shore, is the usual landing. Immediately back of the crest of the shelving shore, just beyond the reach of the heaviest breakers, is a small African village, inhabited mostly by males, who come from their native districts in search of occupation. Their huts are constructed of wattled cane, lined with mats, and are smaller than those at Sierra Leone and the Gambia. They have no enclosures, and make no attempt to cultivate the soil; but look only to the sea for their subsistence. They are called Kroomen, and their distinctive mark is an arrow tattooed on each temple, the point towards the eye. Their only dress was a piece of blue cloth, sometimes merely a handkerchief, worn around the loins.

From the village we crossed the neck of the low peninsula which terminates in Cape Ashmun, at the river's mouth; and, walking along an elevated foot-path, we saw a number of small cattle, spotted black and white, in fine condition. These, with the exception of some goats, a dog, and a few lean and prowling swine, were the only quadrupeds we encountered.

Instead of turning up to the town by a road which led to the right, we kept along the base of the ridge, and soon came to the wharves, where two small vessels were building and one undergoing repair, and about the stores were a number of palm-oil casks and some large canoes, all indicating a degree of commercial activity; thence, ascending the rough hill-side, we passed several houses, one of them a substantial church, nearly finished, and in a few moments reached Broadway, the central and principal street of the town. This street, and those parallel to it, run nearly north and south, and at regular intervals are

intersected by others at right-angles, all broad and straight; but, excepting a path in the centre of each, much overgrown with senna and wild indigo.

Monrovia, which contains about 300 houses and 2,000 inhabitants, is built, as I have said, on a depression of the ridge which sweeps inland from the cape. About midway the length of the principal street the land swells up like an earth-wave, and sinks immediately down the street, crossing the summit and following the declivity. On the summit is Fort Hill, where, in December, 1822, in the infancy of the settlement, the heroic Ashmun, rising from his bed of sickness, with thirty-four brave colonists repulsed an assault made by eight hundred savages.

The houses are detached, being built on lots of a quarter of an acre each. They are of good size, some two stories, but most of them one and a half, consisting of a single story of frame resting on a basement of stone, with a portico front and rear. Many of them were neatly, and two or three handsomely, furnished. There were twelve houses under construction, mostly of stone; and there were, besides, a few which looked in good preservation; but most of the frame dwellings presented an old and dilapidated appearance, owing to the humid climate during half the year, the scarcity of whitewash and paint, and the ravages of the beeg—a bug—a destructive species of *termite*. For the last reason, all the new houses not built in the native fashion—of wattles, mud, and grass—are constructed of stone, while the old frame ones are abandoned to decay.

In almost every yard there were fruit-trees—mostly the lime, the lemon, the banana, the pawpaw—and the coffee-tree; sometimes the orange, and now and then the soursop and the tamarind. The oranges were good, but scarce; and the lemons large and fine. The cocoa grows abundantly, and the pomegranate, the fig, the vine, and a tree bearing the cashew-nut, are to be seen, but not in abundance.

The soil is thin and not productive, resting upon a ferruginous rock which occasionally crops out. The gardens are enclosed by wooden palings, generally in a state of decay, or by stone walls without mortar. In them were only a few collards and some cassada, sweet potatoes, and arrow-root. But it is not the proper season for vegetables, and a few months hence these gardens may, and doubtless will, present a more gratifying appearance.

The suburbs, the river, and the inner harbor, are commanded by Fort Hill, as the outer anchorage is by that of Fort Norris at the cape.

The view from Fort Hill is a very fine one. To the west and southwest it overlooks the houses and the trees far out upon the sea; on the north and east, Stockton creek and the two branches of the Mesurado flow gently through an alluvial plain; and to the southeast the eye follows the direction of the ridge which stretches far into the interior.

On Broadway, south of Fort Hill, is the government house—a large stone building, with arched windows and a balcony in front. The lower floor is used as a court-room and printing-office, and the upper as the hall of legislative council; behind it is the jail; directly opposite is the *President's mansion*—a double two-story brick-house, with a f[illegible]

portico—its roof sustained by lofty columns. It is the most imposing building in the place. There are five churches, all well attended. Indeed, I never saw a more thoroughgoing church community, or heard a greater rustling of silk, on the dispersal of a congregation, than here; all were at least sufficiently attired; and the dresses of the children were in better taste than those of their mothers. One of the most gratifying things I noticed was the great number of well-dressed and well-behaved children in the schools and about the streets. The schools are also numerous and well attended. I did not see sufficient to justify the expression of an opinion, except that, while I noticed the attendance was full in almost every one, it seemed to me that, in some instances, the acquirements of the teachers were surpassed by the capacities of their scholars; but for all the purposes of rudimental education the materials are ample. I feel a delicacy in alluding to this subject, and only say what has escaped me from a solicitude that the generation now coming forward may sustain the institutions of the republic.

The colonists were all decently clothed; and of the natives moving about the streets, with very few exceptions, the most indifferently clad wore a long loose shirt, but their heads and legs were bare. One of the latter I saw reading apparently a book which he held before him as he walked.

On the outskirts of the town is a large coffee grove, which did not seem to be in a thriving condition; and altogether, in and around Monrovia, agriculture wore a languishing appearance. This is doubtless owing, in part, to the poverty of the soil, and in part to the overweening spirit of trade; there being evidently a preponderance of petty retail shops. I must say, however, that the town presented a far more prosperous appearance than I had been led to anticipate. From its fine situation it must eventually be a salubrious one. The sea-breeze at all seasons blows directly over it, and in this respect it is far preferable to Sierra Leone. The bifurcation of the river St. Paul's to the north gives, through Stockton creek, its southern branch, a direct and easy access to that river at all times, without encountering the perils of either bar. On the southeast the east branch of the Mesurado is separated by a portage only five miles from the head of Junk river, which flows into the sea thirty-five miles down the coast. Monrovia will therefore be the outlet of the products of an extent of country not less than 1,250 square miles.

During the time of the Portuguese ascendency, the Mesurado was called Rio Duro, from the cruelty of the natives—a cruelty fostered, if not engendered, by the whites.

It is but fair to state, that the land on the northeast Mesurado gives little promise of being soon brought into cultivation. The banks are so low as to be overflowed at every tide, and are covered, as far as the eye can reach, with an impenetrable growth of mangroves, while the sluggish stream is discolored by the black mud of the marshes, from which, at low water, a most offensive odor is exhaled.

At 13 miles from Monrovia, the east branch is too shallow for canoe navigation; and a quarter of a mile above its source is an extensive morass, overgrown with long grass and mangrove bushes. The scenery is the same as that on the northeast branch. A short distance from the

morass is a native village; the soil around it exhausted from repeated cultivation, and producing little else than cassada.

From thence, across the portage, to the Red Junk river, the surface of the country is nearly level, with extensive fields, no longer under cultivation, skirted with open forests. The soil is light loam, intermixed with sand, and producing only a long, coarse grass. In some places the plain is thickly studded with tumuli, formed by the *Termite bellicosi*, (called by the natives bug-a-bug.) These mounds are from 8 to 12 feet high, and 10 to 14 thick at the base: some having been abandoned by the ants, were covered with grass embrowned by the sun, which gave them, at a distance, the appearance of native huts.

While observing as well as I could the condition of things around me, I did not lose sight of the principal object of my mission, and soon after my arrival set out for the St. Paul's, in a boat manned by natives. For the first six miles our course was up Stockton creek, a wide and shallow stream, with a low mangrove swamp on each side, (*Rhizophera mangle*,) which, like the *Ficus religiosa* of India, propagates itself in a two-fold manner: by perpendicular shoots descending from its branches, and by dropping its long, slender, sharp-pointed seed-pods, which implant themselves in the soft mud beneath, and then take root and grow up into trees, with almost as many stems as branches. On the edge of the banks, on each side, the mangroves throw down their long, fantastic shoots, and within them the tops of lofty trees arch overhead, their branches interlaced with parasitic creepers, while through the crevices of the foliage the flickering sunshine streams upon the sluggish water.

From the growth of trees of which we occasionally caught a glimpse through the mangrove border, there was evidently a drier soil some distance inland; but the shores of the creek, with the exception of two small clearings—one the site of a native village, the other the landing of New Georgia—were for nearly the whole distance one inexplicable network of tangled roots and twisted stems and branches. Through this net-work we occasionally caught sight of a monkey frisking about the tree-tops, and sometimes disturbed a crocodile (miscalled alligator) from his sleep, and saw him clumsily flounder away through the mud to finish his slumber elsewhere. These, with some mud-snipes and curlews, were the only living things we saw. Such an effect had the solitude and the scene upon me, that I almost wound myself up to the expectation of beholding the huge iguanadon dragging himself through the fetid slime.

There was not a sign of cultivation, nor of an attempt to reclaim the soil; and the stifling hot weather, the sluggish stream, and the tainted odor of putrescent vegetable matter, painfully depressed my spirits; but when we passed the lower settlement of Caldwell and entered a bold, swift-flowing river, three-fourths of a mile in width, with banks 10 to 30 feet high, dotted with farm-houses, few of them a quarter of a mile apart, it was like the shifting of a scene in a theatre, and I gazed with satisfaction upon the beautiful sight.

Nothing had been told me to excite anticipation; and the transition was therefore as unexpected as it was gratifying. The breeze, no longer intercepted, swept refreshingly up from the sea, but half a mile

distant by the river; and, turning our boat's head up stream, we joyfully pursued our way.

The banks are uneven—at some places high and steep; at others coming down with a slope to the water's edge. On each side is a belt of cultivation, with a dense forest-growth behind it; and the most conspicuous objects of the scene were the light-green, broad-leaved foliage of the banana, clustering about every settlement, and the detached and distant palm-trees, which reared their dark, tufted heads above the surrounding mass of vegetation.

The appearance of this tree is majestic, yet graceful. Its round, smooth trunk springs, shaft-like, into the air, from sixty to upwards of a hundred feet, and then expands its rich, fringe-like leaves into a canopy, twenty or thirty feet in diameter.

The St. Paul's narrows very gradually in ascending it, and to the head of navigation is nowhere less than one-fourth of a mile in width. For the whole distance of fourteen miles from its mouth, there is a greater depth of water in the channel of the river than on the bars; and, for its length, it is a magnificent stream, pouring down such a volume of water as to render it certain that, however soon its navigation may be interrupted, it has its sources far in the interior.

The soil on both sides is a loamy clay, equal in fertility to the best sugar lands in Brazil. There are on the banks of the river four hundred farms and three thousand cultivators. Many of the houses are built of brick, two of them double-sized two-story ones, and there were seven brick-kilns.

I landed at four or five places, and saw every indication of comfort and prosperity—far more so than in Monrovia. The houses were well furnished, and in one of them was a room, specially assigned for the purpose, which contained a small but good library. The principal articles I saw in cultivation were sugar, coffee, cassada, arrow-root, yams, sweet potatoes, and a few ground-nuts. Among the fruits were the luscious pine-apple, oranges, lemons, limes, bananas, plantains, and the paw-paw; the last, in cooking, an excellent substitute for the apple. A little cotton is raised for domestic use. The sugar-cane was growing finely; and at one of the farms I witnessed the operation of grinding it. The apparatus, in part the invention of the owner, was an ingenious one, but very wasteful in its process; yet the proprietor expected to make nine thousand pounds of sugar and several hundred gallons of molasses this year. I tasted the sirup, which, owing, I presume, to the high temperature, was thinner than I have seen it during the grinding season in Louisiana. Some of the sugar of last year's crop was as light in color and as well granulated as the best Porto Rico I have seen. I scarce think, however, that sugar can to any extent be profitably cultivated, owing to the deficiency of capital and the consequent want of machinery.

Coffee will, I think, become eventually the great staple of this section of country. The tree grows indigenous, can be transplanted with ease, and requires little care in its cultivation; and, where it is not extensively grown, its berry may be gathered as a pastime by women and children. I was shown one sample raised on the St. Paul's, and tried *another gathered* in Monrovia. The last, which I did not see in the

berry, was excellent; but I cannot sustain the assertion that it is better than the Mocha. The former was of a clear light color, and the grains were the largest I have ever seen; I am not aware, however, that the large size of the grain is, *per se*, an indication of superior quality.

From all that I could observe or learn from others, a taste for agriculture is becoming prevalent; and I cannot give a better idea of the prosperity of the settlements on the St. Paul's, than by stating that cleared land fronting on the river sells at from $40 to $50 per acre. Some of the country seats looked beautiful from the river, and their names are characteristic of their owners; some being unpretending, but expressive; some classic, and some scriptural—"Pleasant View," "Iconium," and "Mount Horeb."

Opposite to Caldwell is the settlement of New Virginia; where, in 1847, the government of the United States built a receptacle for liberated Africans. Higher up are Kentucky, Heddington, and Millsburg. Heddington was fiercely attacked by the natives in 1841, and gallantly defended by a missionary and one of the colonists; the leader of the assailants was killed and his party dispersed. These four are little more than a close contiguity of small farms; but Millsburg, at the head of navigation, and the farthest inland settlement in Liberia, is a flourishing village and missionary school station; and on the opposite side of the river is the mission of "White Plains."

From its situation, Millsburg must be comparatively healthy, and is certainly beautiful. The river, separated by an island into two channels, there forces itself over a rocky ledge with the rushing sweep and hoarse sound of a rapid. The ledge is, however, a narrow one, and a channel through it might be blasted with gunpowder, or it could be flanked by a canal. Above the ledge the stream is unobstructed for about ten miles, and the country through which it flows is yet more rolling and beautiful than it is below the rapids. The soil is a rich mould, formed by the vegetable decay of centuries, resting on a substratum of clay, and covered with a luxuriant forest.

At the rapids are a number of islands, clothed with luxuriant vegetation; and, as was remarked by the lamented Dr. Randall, the islands differ from each other in their verdure, and from that of the main land. Each one seems to have caught, in the autumnal inundations, the seeds and roots of particular plants and shrubs brought down from the interior; for, while differing from those on the main, no two resemble each other in their peculiar foliage.

Above the islands the country is represented as most beautiful, bearing trees of immense size, clear of undergrowth, and having their branches interwoven with vines, and decorated with gaudy parasitic plants, forming a shade impervious to the sun, and imparting a coolness to the atmosphere which is truly delightful. The stream, irregular in its width, sometimes forces its way through fissures in the rocks, and at others forms deep pools, where the water is so transparent that the bottom is distinctly visible. It seems as if the foot of man had never trodden these lovely solitudes, where the silence is only interrupted by the murmuring sound of water, the scream of the fish-hawk, and the chattering of monkeys pursuing their gambols among the trees.

This must, however, be taken *cum grano salis;* for, in the rainy season the river overflows its banks and inundates the country.

The river St. Paul's has its source in the same range of hills from which the Karamanka issues; and, by barometrical measurement, these hills are 1,400 feet in height, which is about the elevation of the head-waters of the Mississippi. The scenery of the upper St. Paul's will, therefore, compare with that of the Karamanka, although more than two degrees intervene between their outlets.

The late Major Laing thus describes the country bordering on the latter river:

"The valleys are picturesque and fertile, and are watered by numerous rivulets, which, running from north to south, collect behind the lofty hill of Botato, and contribute in swelling the river Karamanka. I was frequently induced to stop to contemplate the lovely scene around me, consisting of extensive meadows clothed with verdure; fields, from which the springing rice was sending forth its vivid shoots, not inferior in beauty and health to the corn-fields of England in March, interspersed here and there with a patch of ground studded with palm-trees; while the neighboring hills, some clothed with rich foliage—some exhibiting a bald and weather-beaten appearance, formed a noble theatre around me. We left the town of Nijiniah, on the Karamanka, and having walked an hour and three-quarters, gained the summit of one of the hills; and in one direction, on the opposite side, a scene quite panoramic broke upon the view: an extensive valley, partly cultivated and partly covered with a long, natural grass, about five feet high, with lines of stately palm-trees, as regular as if laid out by art, and here and there a cluster of camwood trees, their deep shade affording a relief to the lighter hue of the smaller herbage.

"These, with a murmuring rivulet, meandering through the centre, exhibited the appearance of a well cultivated and tastefully arranged garden, rather than a tract amid the wilds of Africa; whilst, in the distance, mountain towered above mountain in all the grandeur and magnificence of nature."

Without being so wide or so impetuous in its current, there is much in the St. Paul's (one feature excepted) to suggest what might have been the appearance of the Mississippi above La Fourche, and below Baton Rouge, before the less pretending houses of the Creole planters were displaced by the stately mansions of the present proprietors.

The St. Paul's connects, it is said, with Half-cape Mount river by a branch that runs parallel with the coast, and both abound in fish and a small species of the "*Hippopotamus liberiensis*," thus named by the late Dr. Morton, of Philadelphia, from *craniæ* sent to him by Dr. Goheen. This animal is said to be extremely tenacious of life, and, except to gunpowder and ball, almost invulnerable. When injured he becomes dangerous; but if unmolested, never, the natives say, attacks any one. The flavor of the flesh is described as intermediate between that of veal and beef.

About seventy miles from Millsburg, in a direction a little east of north, is Boporah, a large native town, formerly containing more than a thousand houses, fortified with a strong barricade. The path to it leads through a dense forest, in which there are elephants and a great

many other wild animals. For the first fifty miles there are no villages, and the only natives met with are the elephant-hunters, who are numerous, and represented as friendly. The St. Paul's passes within twenty-five miles of the town, winding, in its course, among many islands.

On both shores of Stockton creek, as well as on the Mesurado, are many alligators' nests. They are about four feet high, and five in diameter at the base, made of mud and grass, very much resembling haycocks. The female first deposites a layer of eggs on a floor of a kind of mortar, and she and her mate having covered this with mud and herbage, she lays another set of eggs, and so on to the top; there being sometimes as many as two hundred eggs in a nest. All is plastered over with mud by the tail, and the grass around the nest is beat down with the same member, to prevent an unseen approach of enemies. The female then watches the nest until the young are hatched by the heat of the sun; when she takes them under her care.

In order not to lose time waiting for the steamer which had been promised me, I requested Commander Barron to convey me to the Junk river, about thirty miles down the coast. Leaving an order, therefore, for the Vixen to follow, we weighed anchor in the afternoon of a clear, warm day, and, sailing slowly southward, had the best view of Monrovia, spread out on the cleared portion of the ridge, where it is depressed within eighty feet of the sea.

From Cape Mesurado to the Junk river, the coast runs in a southeast direction; and presents, as heretofore, the same low line of sand, with a back-ground of forest for eight or ten miles, where a slightly elevated ridge is thrown up immediately upon the shore. About the same distance from it, but further inland, are the "Crown" and the "Cockscomb"—two isolated hillocks; and beyond them, and thrice the distance inland from the coast, south of the Junk river, are two remarkable peaks with a depressed ridge between, called "Saddle Hill," towering above the sea of verdure, and measuring 1,070 feet in height. Beyond the Saddle Hill are two other peaks, dimly visible in the distance. With these interruptions, all else is a sandy beach, edged with a glittering line of light, where the surf breaks upon it, backed by a vast forest stretching to the horizon.

Anchoring off the mouth of the Junk river, I was compelled to remain nearly two days inactive, in consequence of heavy breakers on the bar. It was the change of the moon; and the colonists maintain, that at such times, from the increased swell, the passage of the bar is impracticable.

When the swell seemed to have sufficiently subsided, with the native crew which always accompanied me, I started for the shore. These men were of the Nifou tribe, whose territory is farther down the coast.

Although muscular, active, and in the open sea fearless in the management of their canoes, a circumstance occurred on our way to the shore, which satisfied me that they are not to be relied upon in danger. Trusting to the head man, who steered the boat and directed the crew, ten in number, how to manage the oars, (for on their skilful management almost everything depends,) I felt no apprehension, and directed my attention to the shore, which we were rapidly approaching. A startling exclamation roused me; and looking back, I saw a low, blac

cloud sweeping towards us, and driving a huge wave before it. We were almost on the bar; and the terrified crew were divided in opinion as to whether we could cross it before the gigantic roller overtook us. To be caught by it before we were safely over would be certain destruction. At this trying time the panic-stricken boatmen failed me; and in loud confusion they argued what should be done, when every instant's inactivity increased the peril fourfold. But as soon as the question was settled for them, and the steersman was directed to turn the boat's head towards the southern shore, they gave way with all their might, and, although borne down to the very edge of the outer breakers, we gained the beach in safety. I am satisfied that, with a good pilot, it would be less dangerous to cross these difficult bars in a boat manned by white men.

We landed just below Bassa Point, near the dwelling of a colonist. It was recently built, in a clearing in the midst of a grove of palm-trees; and I found him, with three or four natives in his employment, busied in extracting from the palm-nut the rich oil it yields. After resting a short time under his thatched roof, with the assistance of his laborers, we dragged the boat up the high, shelving bank, and over a narrow strip of sand, and launched her in the South Junk, which, flowing nearly parallel with the coast, unites with the other branches just inside the bar.

From thence we pulled over to the village of Marshall, on the northern bank, about half a mile from the river's mouth. This was the last settlement made by the parent Colonization Society in Liberia. It is elevated about forty feet above the river, and its situation is a fine one in appearance; but the soil around it is poor, and the place far from flourishing. Originally laid out on an enlarged plan, it now contains but thirty or forty houses, built along the river-bank—a few of them frame buildings, but most of them plastered mud-walls, with thatched roofs—many presenting a dilapidated appearance.

The only article of export I saw was a quantity of lime, made from the oyster-shell upon the shore; and I was assured that this place wholly supplies Monrovia, and partly the other settlements, with this invaluable building material. Oysters are plentiful here; but they are only palatable when cooked; and the river abounds with mullet. There is some small traffic here with the natives in camwood, palm-oil, and a little ivory; but it is much interfered with by dealers from Monrovia.

It being Sunday when I arrived, after conversing with some of the citizens, I accepted an invitation to attend church, and there heard a sermon from a venerable colored preacher which I shall not soon forget. I have heard many stereotyped sermons, but never one to move me as much as this. The distant booming of the surf on one side, through which I had to pass to rejoin my companions, and the dark, teeming forest upon the other, tended, no doubt, to enhance the solemnity of the scene; for, seated upon a rush floor beneath a roof of thatch, as I listened to the earnest tones of the feeble old man, I never felt more impressed with a sense of my own undeserving. I mention this, because I conceive that I should withhold nothing which may convey a correct *idea of the* impressions made on me in Liberia. In a personal sense,

these impressions are insignificant and wholly unworthy of record. Their only importance is derived from the scene which gave them birth, and from the inference to be drawn from it, that Christianity has its exemplars in benighted Africa, as well as in our own more favored land.

About a mile above the settlement is the confluence of two streams—the Red Junk, flowing down from the north, and the Junk, or main stream, from the east. The Red Junk, near its source, is connected with the eastern branch of the Mesurado by a narrow portage. At the junction the banks of both streams are low and bordered with mangrove thickets.

About two miles up the Red Junk there is a native village, and from thence the banks become more elevated and present a more attractive appearance. The palm-trees become more frequent, and, in the space of twenty miles, the scene is enlivened by a number of villages—the light-green leaves of the banana indicating their locality long before the brown roofs become visible. The course of the stream is winding, and its width various; at times but 150 to 200 yards, with comparatively high banks, and again spreading out to nearly a mile in width, with low and sedgy shores.

The vegetation is very luxuriant and much diversified in its character. The scenery of the river's banks is described as rich beyond conception.

"Trees of singular form and foliage spring from the deep, rich soil, and rear their heads to an amazing height; while their branches are covered with a beautiful drapery of vines, forming a dense shade, and hanging, in many places, to the surface of the water."

Looking closely at these trees, a large black knot is occasionally seen swelling irregularly out of the branch to which it attaches. It would be set down as a fungus, but that a more scrutinizing glance detects the head of a snake projected above the coil, in an attitude of menacing vigilance. On the near approach of the boat every fold is shaken out, as by a single effort, and the snake precipitates itself into the water and disappears. It is the well-known black snake, measuring from four to six feet in length and two to four inches in diameter, which frequents the banks of rivers, and is said, by the natives, to be amphibious.

The fertility of the soil, combined with the presence of moisture, gives a peculiar depth and vividness of green to the foliage; and the stream, as smooth as a polished mirror, reflects the variegated beauties which clothe its banks. Occasionally a light native canoe shoots down with the current, or paddles up stream, close along the shore; while among the trees, a short distance back, monkeys are seen springing from limb to limb, in pursuance of their gambols. As on the St. Paul's and the Mesurado, the stranger is little annoyed by mosquitoes and flies, and is struck with the scarcity of birds and flowers.

In the rainy season the first deficiency may be more than satisfactorily supplied, and the moist, gloomy shades of the forest are unfit nurseries for flowers, which thrive best in a light soil and where they can expand their petals to the sun.

Of the birds to be seen in the recesses of the wood, very few are gifted with melodious notes; but by the compensatory law of nature, some *of them are magnificent* in their plumage. Of these, the sun-

bird, scarce larger than our smallest humming-bird, with its scarlet breast, tinged straw-color at the edges, its emerald throat and back, and dove-colored wings, and a tail longer than its body, is the most beautifully conspicuous. Others I saw wholly of one color—some of the deepest indigo-blue, and others a rich tinted orange. But they partook of the spirit of the solitude in which they dwelt, and flitted silently from tree to tree before the footsteps of the intruder.

Like the Red Junk, the Junk proper has low banks, bordered with mangroves for about three miles from the junction, where the shore rises on each side and the soil becomes fertile, occasionally presenting a slight elevation, on each of which is a settlement comprising three farms of colonists and two native villages.

The river averages about 300 yards in width to King Kymocree's village—a collection of twelve or fourteen low-pitched, mud-plastered huts, with projecting thatched roofs and uneven clay floors. In the centre of the floor is the fireplace—the only outlet for the smoke being the low and narrow door-way, near which the inmates are always, by preference, seated. The principal building, in front of which the king held his audience, was built of wattled cane; but not plastered, being open all round. About six feet from the floor were cross-pieces; on which, up to the roof, was piled rice in the sheaf, to be dried by the smoke of the council-fire. The king is short of stature, but with a muscular frame; and his features altogether are more of the true negro type than I have thus far seen in Africa. He was cordial and communicative; and the colonists represented him as a staunch friend and ally, having in the late war borne arms gallantly in their behalf. He possesses a number of villages—their male inhabitants, like those of the one we were in, being nearly all absent some distance inland, clearing land preparatory to sowing rice. He presented us to three of his wives and six or eight children: declaring that the latter were so numerous, that he did not know them all by sight. His tribe is one of the many ramifications of the Bassas, of whom I will speak further on.

Although scarce beyond middle age, this chief was quite gray; and, in this respect, I have repeatedly noticed the difference between the African and Mexican Indian, whose hair never changes its color. There is also a perceptible difference in the texture of the hair of natives along the coast; for, as I have proceeded south, it has appeared to me to be finer, more elastic, blacker, more shining and crisp, than in Goree and about the Gambia.

Thus far I have not seen an instance of baldness among the natives; but their lips are, in general, as dark as their faces: therein differing from most of their descendants with us; and the whites of their eyes are tinged with a yellow suffusion, which I know not whether to ascribe to the constant smoke in which they are enveloped in their huts, or to some organic cause. I incline to the latter opinion; for the eyes of the Kroomen, who had been serving two years on board of the John Adams, were as much discolored as those of the natives I saw on shore.

Above the mangroves the land has the appearance of great fertility, and teems with every production of an intertropical forest. This stream is broader and bolder than the Red Junk, but the features of its shores

are exactly the same. It is navigable by boats for thirteen miles; and twelve miles further there is a ridge of high land, east of which is an extensive lake, from whence the river issues. Twenty miles beyond the first ridge is a second and loftier one, from which the blue crest of a mountain is visible to the southward and eastward.

The level land west of the ridges, and the valleys between them, is one dense, wide-spreading forest. These ridges are evidently the outlying shoots of an interior mountain range. From all I could learn there is much camwood in the interior; and the forest beyond the first ridge of highlands abounds in elephants. The exports of camwood and ivory could therefore be very much increased; while it needs only a glance in any direction to see the numerous palm-trees, bearing aloft thick clusters of fruit, which only require the hand of industry to gather and express from them the valuable oil; the demand for which, now that it can be deprived of its stearine, increases with every successive year.

Marshall is injudiciously situated on a sandy soil, which is parched up during the dry season, and is therefore unfit for cultivation. Could the settlement be removed to a convenient point on the main stream, near the confluence, the colonists disposed to agriculture would find more fertile land, while those embarked in commerce could engross the river trade, which, as I have said, is so much interfered with by mercantile agents from Monrovia. Several of the colonists are making settlements a short distance up the river; and I believe there would be a general movement if the few enterprising men now in the place were not so hampered by a disproportionate number of helpless women. A settlement at or near the point of junction could raise enough for its subsistence; and, by means of a direct intercourse with the interior up one stream, and with Monrovia by another, unaffected by the weather on the coast, would, doubtless, carry on a thriving business.

From the Junk to the St. John's river the coast preserves its southeast direction, with the same monotonous features, except some red and white cliffs which abut upon the shore below the former; and inland, the range of Bassa hills and the isolated Mount St. John, which become visible on approaching the latter river.

We anchored off the mouth of the St. John's too late to enter it by daylight. On the following morning we started for the shore, and, passing a Liberian schooner, bound to Monrovia with a cargo of palm-oil, and an English cutter coming up from the southward, we steered for the opening in the line of beach, where, with a graceful curve and a rapid sweep, the river finds an outlet; and, crossing the bar on a heavy roller, we landed at Buchanan.

Within the bar are concentrated the waters of three rivers: the Mechlin, flowing from the north; the St. Johns, from the northeast; and the Benson river, from the east. Thits great body of accumulated water is forced through a passage narrower than the principal stream; and when the tide is ebb and the wind blows fresh upon the shore, there is drawn across it a line of terrific breakers. At this season, however, the winds are ordinarily light, and with a skilful pilot the bar can be passed in safety.

On the *sandy peninsula* between the Mechlin and the sea, just within

the confluence, some thirty feet above the water, is the village of Edina; the streets contiguous to and running parallel with the river. This settlement consists of a church and some twenty or thirty dwellings, of which the former and three-fourths of the latter are frame buildings; the rest are thatched huts.

This settlement presents an unthrifty appearance. The wide rectangular streets are overgrown with weeds; and although there are several coffee groves, the trees are too thickly planted, and the ground between them is covered with rank grass and shrubbery. In the rainy season the path which winds through each street, like a trail through a prairie, must effectually conceal those who pass to and fro, from those who remain stationary in their houses. If I had not known it before, the lean condition of some vagabond pigs I saw would have satisfied me that there is nothing nutritious in senna and wild indigo. And yet there was nothing gaunt or slovenly in the appearance of the inhabitants; and at the first threshold I approached I was greeted by an old colored lady, attired in a silk dress, with corresponding trimmings.

The Benson river pours in its tribute opposite to Edina; and on the west side of the junction is the flourishing town of Buchanan. This settlement was founded by the New York and Pennsylvania Colonization Societies, in 1835, and consists of the emigrants who escaped from the massacre at Fort Cresson, two miles further down the coast. In 1838 the population of Buchanan was 200: it now contains 600 inhabitants, and musters 100 fighting men. The last has become an essential item in the statistics of the place.

This colony was first founded on the peace principle, but the massacre of its unarmed inhabitants conclusively proved the folly of such an experiment, on such a field; for, in the space of one month, in the very year of its selection, 500 slaves had been embarked from the cove; and it was known that the native chiefs regarded the settlement of colonists in their vicinity as destructive of their traffic with the slave ships.

On Benson river, adjoining the town, there was a steam saw-mill in operation; and in the cove beyond it, one small vessel was hauled up for repairs, and two others were anchored in the stream.

Between the Benson river and the confluent streams, before they mingle with the sea, Buchanan is built, on wide streets running parallel with the beach, and they are less encumbered with weeds than those of Edina. Unprotected by whitewash or paint, the houses all present a dingy, semi-dilapidated appearance, except the residence of Judge Benson, on the south side of the cove; which looks fresh and beautiful, embowered, as it is, in an extensive grove of coffee-trees.

The St. John's river is as wide as would be the united streams of the Mechlin and the Benson. It is half a mile wide at the estuary; and for a mile further up, is fringed with the mangrove. Thence it gradually lessens in width, and at the distance of three miles is divided into two channels by Factory island, on which Mr. Ashmun contemplated forming a settlement. Above the island the river narrows more rapidly, and does not exceed 200 yards in width at Bexley, a missionary school station, and rather a farming settlement than a village, seven miles from the river's mouth.

Opposite to the mission is the town of "King Soldier"—a venerable

and friendly old man, upwards of one hundred years old. A little above is another island, half a mile beyond which is the head of navigation, where the immediate banks are about twelve feet high.

The scenery is the same as that on the Junks, except that there are more frequent indications of agricultural improvement. After the mangrove ceases, the soil is a yellow clay; and the principal growth on and near the water's edge is a medium-sized tree, from its peculiar properties called the soap-tree; and the more lofty pullam or wild cotton tree, the sassy-wood tree, and the palm-tree. The qualities of the soap-tree are the same as those Herodotus mentions, of the shavings of which the Scythian women made a soft paste, wherewith they plastered their bodies, and stripped it off again when quite dry; by which means the skin was thoroughly cleansed.

One of the farm-houses at which I stopped was finely situated on a rolling piece of ground, some eighty feet above and one hundred and fifty yards distant from the river. It was well furnished and contained two rooms and a kitchen below stairs, and an attic sleeping-room above. It was the workmanship of the owner—an emigrant from Staunton, in Virginia; and the neat, yet strong stairway of wattled cane, and the partitions made of rushes, attested his industry and skill; while a small, but good library, proved that he possessed yet other resources. Himself, his wife and daughter, made the same declaration, which, with two exceptions (and those unprotected females,) I have heard from many others—that nothing could induce them again to take up their residence in the United States.

On the banks of the river, between Buchanan and Bexley, are the farms of eight or ten colonists, with as many native settlements; and I think that I counted two brick-kilns; but, as on the branches of the Junk and the St. Paul's, the settlements extend only a short distance back from the river. Including Bexley, there are 250 colonists on the St. John's above Buchanan.

The mission-house, just below the settlement of Bexley, is a fine two-story frame building, occupied at the time of my visit by two male and three female missionaries. They had arrived a month previous, and were still in the enjoyment of excellent health. Although unprovided with a physician, they spoke cheerfully of their prospects, and expressed gratification at finding things so much better than they had anticipated.

I felt a glow of pride, tempered with sympathy, as I looked upon my countrymen and countrywomen periling all earthly hopes in such a noble cause. This is true heroism—the chivalry of the gospel! For warlike achievements, men are almost deified; while the self-sacrificing missionary, who foregoes all the comforts of life, and, with the cross for his banner, boldly penetrates the cloud which overshadows this continent, and encounters certain sickness and death, more or less premature, for the benefit of a benighted race,—the missionary is rarely named, except with the final enunciation, "*Mortuus est.*"

There is a considerable tract of land under cultivation at Bexley. I could not ascertain how much its produce has increased; but some years ago it yielded 600 lbs. of coffee; nearly 3,000 lbs. of ginger; 1,100 baskets of sweet *potatoes; 1,200* lbs. of arrow-root; and 300 bushels

of cassada. There were raised, besides, a great many fowls, and some sheep, goats, and cattle.

Beyond the rapids, the St. John's is navigable by canoes six miles further; from whence it is about ten miles to the base of Mount St. John; beyond which is a broad valley, bounded on the east by elevated ridges.

The principal forest growth beyond the head of navigation is camwood, bastard mahogany, African hickory, two kinds of wisniore—both admirably adapted for articles of furniture—and the oak, differing essentially from the species found from the tropics nearly to the polar circles, which is, throughout those regions, a cosmopolite of vegetation, being alike in its fruit, although much diversified in growth and the form of its leaves.

From thirty to fifty miles from the sea is one uninterrupted camwood forest; and the wood is used by the natives as fuel, and for building purposes. They fell the trees, and split them up into billets fifteen or sixteen inches long, which they carry in bundles on their heads to the nearest point of canoe navigation. Instead of this slow and laborious process, it is strange that it has never occurred to them to launch the trees, denuded of their branches, and raft them down the river. The whole world might be supplied with camwood rafted down the St. John's.

Most of the land bordering upon the sea has been, at different times, under cultivation; but after yielding the first crop, a piece of land is abandoned, and a new clearing made for the succeeding one. As a natural consequence, a rapid growth of vegetation supervenes in the deserted field, and it becomes, in a few years, a tangled thicket of trees and shrubs, bound together with the lacings of interminable vines and creepers. Added to which, from the incessant wars heretofore for the purpose of supplying the slave trade, the country along the coast has been half depopulated. Thus stripped of a great part of its primitive growth, and cultivated only in spots detached and distant from each other, the general aspect of the coast is that of a forest of dense and matted trees and shrubbery, almost destitute of its original characteristics.

In ascending the rivers, however, a wholly different scene presents itself. The primitive forest, in all its native grandeur, covers the earth; the graceful palm-tree waves its feathery branches in the breeze, and the lofty wisniore and huge bastard mahogany rear high their towering heads, while among the green foliage is seen the gay coloring of blossoms on many a stately tree, which give a kaleidoscopic variety to the deep embowering wood. Far up the streams, the eye is charmed with the ever-varied landscape: the dense trees which overhang the banks, their towering height and majestic size, the vivid hues of their foliage, and the sombre shade, despite the rays of an unclouded sun.

The profound stillness which prevails in these solitudes was disturbed at our approach, not only by the harsh grating of the oars in the rowlocks, but also by the wild and not unmelodious songs of the boatmen, which caused the basking crocodile to plunge into the stream, the *monkey to* retire into the recesses of the wood, and the fish-hawk to seek *another position* from whence to pounce upon his prey.

The territory of Little Bassa has many subdivisions, under as many

names. It is compressed nearly into the form of a triangle by the Atlantic and the branches of the Junk and the St. John's rivers; and is also a peninsula, as these streams approach each other very nearly in the interior. The country abounds in camwood and palm-oil, and the demand for the last is rapidly increasing, as it is now used instead of Russian tallow in the manufacture of soap. Hundreds of tons of camwood, and many thousand gallons of oil, are annually shipped from these rivers.

The new clearings on the river-banks, the steam saw-mill at Buchanan, the vessels in the cove, and the buildings under construction, all attest, with the exception of Edina, that the settlements on the St. John's are flourishing.

About three miles further down the beach from Buchanan is Fishtown, now being resettled, where there are twenty houses under construction. and a considerable tract of land cleared for cultivation. In the environs of the former, and on the road to the latter, I saw a number of cattle, larger in size than those of Monrovia. Their excellent condition verified the statement of respectable settlers that the neighborhood is a fine grass country.

The landing-place at Bassa Cove is protected from the sweep of the southwest wind, the prevalent one during the rainy season, by Grand Bassa Point, which bends to the north and renders the landing safe, except during a northerly wind. Unfortunately, when I left, the wind blew from that quarter, driving a heavy sea before it. It was near night-fall when I embarked in a canoe, to be conveyed through the surf to the boat, which lay beyond the outer breakers. I took my seat in the little dug-out, which was so light that I could have carried it upon my shoulders, while two natives, one standing at each end, kept it from being swerved entirely round and filled with water, as the waves broke upon the shore and washed knee-deep beyond them. As each wave receded, the two men pointed the bow anew in the right direction, and then stretching themselves up to the greatest height, watched the foaming crest of the succeeding roller, for an opportunity to launch forth and attempt a passage. It was necessary that those who had me in charge should not for one moment be distracted; a few friendly colonists, therefore, unable to assist, stood a short distance back, and watched our proceedings in silence. The scene to them must have been a wild and impressive one: the tiny canoe, the dusky forms of the natives, now and then shown in striking contrast as an angry breaker broke upon the shore, and sent its seething foam far up the beach, and the troubled sea beyond, with the boat in the foreground, tossing confusedly upon it.

We waited so long for an opportunity, that the ship, at first dimly visible in the distance, became lost in the fast increasing obscurity; and the boat beyond the line of surf could only be distinguished as a dark speck upon the surface.

At last there was a sudden shout, a push, a plunge, a rocking violently from side to side, a rapid play of the paddles which seemed more like wild gesticulations than a concerted movement; and, after a few moments' pitching and tossing, more than I ever pitched and tossed before, I found myself alongside the boat, and the canoe half filled with *water*.

It was a long, cold, uncertain pull afterwards to the ship, four miles distant, against a high wind and heavy sea, and without a compass, which, from fear of losing it by the upsetting of the canoe, had been left upon the shore. We were soon, however, favored with a beacon; for a lantern was hoisted on board the ship. About an hour afterwards a blue light was burned; and in an hour more we pulled alongside, the Kroomen too weary to keep up their customary song.

The next morning we sailed for Sinon, eighty miles further down the coast, a Liberian schooner taking her departure also for the south a few hours before us. The two canoemen, my companions of the night before, came off to bring the compass, and receive a compensation for their services. They also brought a specimen of coffee from Judge Benson's plantation, for exhibition at the New York Crystal Palace.

The Bassa tribe occupies the coast and an indefinite distance inland, from the Mesurado to Settra Kroo, below Sinon. All the colonial settlements of Liberia are within the territory of this tribe. With this tribe, therefore, they are better acquainted, having daily and hourly intercourse with them; nearly all the residents, natives of the settlement, being members of this large tribe, estimated to number 100,000! all speaking, with little variation, the same language; their physical conformation, pursuits, manners, architecture, superstitions, and productions of the country, presenting a striking uniformity. This tribe, like others on the coast, embraces a great many subdivisions, under petty chiefs, of from 15 to 20 miles square, but forming combinations, to more or less extent, by general custom and superstitious laws, continually harassing each other by family quarrels and petty jealousies. They are, nevertheless, industrious in their habits, not fond of wandering far from their homes, and are imitative and desirous of improvement.

Wars occasionally take place between two or more of the subdivisions; but, when they have occurred heretofore, the slave trade was generally the exciting cause. With the extinction of that direful cause, its lamentable consequences it is hoped may be hereafter averted.

Every town and village has its headman, who is subject to a king—generally an old man, to whom, as well as to the aged in general, great respect is paid. These kings and headmen do not appear to exercise despotic authority. An accused person is tried by the ordeal of drinking red water, a decoction of sassywood, or by a general palaver, which decides the innocence or guilt, and determines the punishment.

Their towns are assemblages of small conical huts, placed without order, sometimes on the banks of rivers, but are most frequently hidden by the surrounding woods, to which they retreat when attacked by an enemy. These towns exhibit much pleasing harmony and good nature, having altogether the order and features of one great family. Polygamy is universal, the number of wives being the measure of a man's wealth; yet, nothing like indiscriminate licentiousness is to be seen. The men perform no servile labor, but pass most of the year in careless indolence, except the months of February, March, and April, when *the towns appear to* be deserted by them, excepting one or two hoary-

headed patriarchs; all others being busied in cleaning and burning off their farms.

At this time the whole line of coast presents an interesting spectacle from the sea—volumes of smoke by day, and numerous blazing fires at night. The planting of rice and cassada is then left to the women, to whom all further labor is resigned until the crops are safely stored in their houses. The men then betake themselves to their usual pursuits and amusements. They often seek employment among the colonists, in order to get a supply of tobacco and cloth for themselves, and beads for the women. When they have anything to sell in the colony, the women, with their children strapped to their backs, carry the articles on their heads, while their lordly husbands walk on before, each bearing a knife or a gun.

The children, soon after their birth, are exposed naked to the rays of the sun, and the manner in which they are nursed is anything but gentle; but they are very healthy, and few die in infancy. The boys, eleven or twelve years old, completely throw off all maternal restraint, deeming it unmanly to be longer controlled by a woman. Nothing will make a native boy in the service of the colonists run away sooner than being struck by a female.

Their mechanical and agricultural implements are exceedingly simple—the latter being merely a hatchet for the men to cut down the bushes and trees; and a small hoe, three inches broad, for the woman to plant the rice with, which, when ripe, is cut down with a common knife. They cook rice admirably, and all their peculiar dishes are highly seasoned with pepper. They live principally on vegetables, but are fond of animal food—snakes, guanas, and monkeys being among their highest luxuries; and they are accused of not being averse to cats and dogs. Smoking and drinking palm wine (and rum, when it can be had) is the *summum bonum* of their existence. They rarely, however, drink to excess; but are fond of games of hazard, which they play with large beans. They do not gamble, however, to the extent of some tribes in the interior, who first stake one limb, and then another, until the whole body is forfeit, and the unsuccessful player becomes the slave of his antagonist.

By the labor of the missionaries a syllabic alphabet has been constructed for the Bassa language, which, although harsh, is metaphorical; the figures being drawn from natural objects. It is believed that there exists a similarity of construction, and no great disparity in the elementary sounds of the languages of the tribes extending from the Gallinas to Cape Palmas. Such alphabets, therefore, may prove extensively and eminently useful.

The coast from Bassa Cove to Sinon presents the same monotonous features as that to windward, only interrupted at New Cess river, and between Trade Town and Little Culloh river, where there are two elevations near the coast, of which "Highland Peak," the southernmost, is 240 feet high; directly back of it is the "Tobacco" mountain, 880 feet; the "Nipple," 218 feet high; and abreast of it, the "Pobamo rock," directly upon the coast.

The light winds and *smooth* sea which prevail, with the smoke on shore *and the mist to seaward,* would render sailing along the coast

exceedingly tedious, if the scene were not enlivened by numerous canoes which put off from the shore, six to eight miles distant, and, paddling alongside, in noisy competition seek to gratify curiosity, or dispose of fish, fruit, and fowls, for bread, pork, tobacco, and any kind of clothing. These canoes usually contain from two to four men each, squatted upon their hams, with their feet behind them, and nearly every one naked; the best attired having only a kerchief about the loins, and an old straw hat upon the head.

So much are these people at home in the water, that when a canoe upsets, the crew, with as much nonchalance as if it were in a shallow stream, right it, and taking hold of each end, sway it to and fro lengthwise, until the water is nearly all swashed out; two of them, alternately, rather roll than clamber in, and, seated at each end, jerk their legs to and fro rapidly along the bottom; and thus, with the flat of their feet, bail it perfectly dry.

One of this amphibious race came on board while we were sailing down the coast, and left his companion, a mere lad, in the canoe, which was made fast to the ship. We were moving so rapidly through the water that the tow-line parted with the strain, and the canoe, propelled only by one paddle, could not keep up with us. The man who had left her was on the poop, and, after regarding for a few moments the ineffectual efforts of his companion, he made a single ejaculation, walked to the gangway, descended the side, and letting himself into the water, swam to his canoe.

The people along the coast, protected, as they imagine, by their gree-grees, which they purchase from their priests, have no fear of sharks; and it is certain that this voracious fish gives preference to the flesh of a white man. Repeatedly a boat has been capsized containing but one white man among its crew; and yet that man has been singled out and destroyed, while the rest were not even molested. The escape of the native may be owing to the peculiar mode in which he swims—a mode which appears ungraceful to the beholder, but may prove the safeguard of the swimmer. I have noticed that this people swim overhanded, with their bodies parallel to the surface of the water, which they splash by the movement of their hands and feet; but my observation has been limited both as to time and space, and it may be that it is to the odor of the skin, or a difference in the taste of the blood, that the preference of the shark is to be attributed.

Between the St. John's and the Sinon river there are several streams coming down from the interior, but all are shallow and mostly difficult of access. First, the "New Cess," where was the last slave mart between Cape Mount and Cape Palmas. There are here masses of sienite upon the beach and a range of hills stretching inland. Next, the "Little Culloh," south of the highland peak, and accessible to boats in fair weather, and with a good landing just below it. Then follows the "Grand Culloh" river, with its entrance barred up at this season; and the "Tembo," which has a good landing on its southern beach; "Sestos" river, where a slave factory was long established; *the "New" river*, coming in by "Diabolito rock;" the "Broom" river, *at the mouth of* which is Bahyah rock, sixty feet above the sea; and the

"Sangwin" and the "Grand Bouton" rivers, the latter having a bluff 260 feet on its southern shore, and the "Yulee" shoal before it.

There are many rivulets besides these streams, all pouring down, even in this dry season, immense volumes of water, but none of them admitting vessels drawing more than six feet water, except the "Sangwin," which at the flood has upwards of ten feet water upon its bar, within which it is spread out and is navigable but for a short distance.

From the Sangwin to Nifou is the Kroo country, inhabited by an interesting race. The extent of their territory inland is not accurately known, but supposed not to exceed twenty miles, as they have no towns, except upon the coast. The general aspect of the country is champagne, and it is densely wooded, but mostly free from marshes. Its chief vegetable productions are rice, cassada, yams, and plantains. The rice which it produces is valued by traders along the coast for its superior whiteness. The rivers which run through it are not large, and do not probably rise at any great distance from the coast, although the Krooman, whose ideas of distance are far from exact, represent them as extending a great way inland. They are full of banks and shoals, which obstruct navigation.

In the Kroo country there are but five towns: "Little Kroo," the northernmost; "Settra Kroo," the chief town; "Kroo Bah," "Nanakroo," and "Willstown." A few small villages, inhabited by strangers or slaves, are said to be scattered over the intermediate space, and at a greater distance from the shore, for the purpose of cultivating the land. This small district is considered more populous than any along the coast. The inhabitants are employed by all the vessels trading between Cape Mesurado and Cape Palmas as factors, interpreters, and as auxiliaries to the crews, to save them from exposure in boats. The Kroomen who thus employ themselves are seldom less than fifteen or more than forty years of age. Those who remain at home are chiefly employed in agriculture and a few in fishing. They rear also a few cattle. The land seems to form a common stock, and not to descend by inheritance. Each man settles where he pleases, and the labor is performed chiefly by the women, assisted by domestic slaves.

The commerce of the Kroomen is carried on principally by barter, and the articles in greatest demand among them are leaf-tobacco, cotton cloth, handkerchiefs, fire-arms, knives, and bar-iron. The last they manufacture into implements of husbandry. For these articles they exchange palm-oil, a little ivory and rice, and occasionally supply ships with fire-wood, plantains, cassada, and sometimes with bullocks. They paddle in very small canoes to ships eight or ten miles from the shore, with not more of these articles than will procure for them a few leaves of tobacco—counting their toil and hazard as nothing. Their chief article of barter, however, is their labor to captains and traders on the coast. This is the source from whence they derive by far the greater portion of their imported commodities. They have long been the exclusive intermediate dealers between vessels trading on this part of the coast and the people of the interior; and while the slave trade flourished, it employed a great many hands. Since the abolition of that trade, they have *sought other lines* of service; and at Sierra Leone, *350 miles to the north, there* were 800 of them employed in one year.

The form of their government is monarchical; but the "*old men*"—the aristocracy of the country—possess considerable influence, and the power of the monarch is small, except when supported by them. Each town has a chief, who is designated as king to strangers; but there is one chief who is considered superior, and rules over the whole. The power, however, of the superior chief is very great in his own district, and the office, it is probable, is hereditary. At the same time the children of the greater chiefs work as laborers in clearing the ground, while they are young men, in exactly the same manner as the lowest of the people; nor are they to be distinguished on ordinary occasions by their attire, or by superior respect being paid to them.

With respect to the principal monarch, his power is seldom exercised; and instead of being the source of all authority, the fountain of justice, the original proprietor and ultimate heir to all the land, he is in general no more than the last referee in important disputes, and the person in whose name business with other tribes or countries is transacted. A general war must be carried on in his name, but independent of the concurring voice of those headmen who possess the greatest share of talent and activity. His power is probably far less than that of some of his subordinate chiefs. This remark applies not only to the Kroomen, but to all the African tribes not of the Mohammedan faith.

A king usually names a vice-king, who, on the death of the former, succeeds him in sovereign authority. A mourning cry of several days' continuance takes place on the death of a king, during which time the succession is arranged. The body of a deceased king must be interred with the honors due to his rank before his successor can be recognised. The possession of the body is therefore the first thing aimed at by competitors for the throne.

Wars are not frequent among them; but the inhabitants of the different towns sometimes have very serious quarrels. When at war, all Kroomen who are made prisoners are released on the payment of a ransom. They neither kill nor sell them. Prisoners of other tribes are enslaved or put to death. The submission of Kroomen to their superiors is carried so far, that, if one of the foremen commit a theft, the rest will run any risk, and resist every temptation of reward, rather than reveal it; and if there be no other mode of saving their superior from disgrace and punishment, they will assume the crime, and suffer its penalty. Among themselves, theft is punished by whipping. The punishment of adultery is by fine. Murder *may* be punished with death, but it, also, may be atoned for by a pecuniary fine. Witchcraft is always punished capitally; but instances of it are rare.

Among Kroomen no offence is punishable with slavery, nor is any Krooman permitted to be sold on any account whatever; but, while the slave trade continued, they were notorious for kidnapping and selling the Bushmen, who came down to the coast for the purpose of trade.

Kroomen are seldom very tall; but they are well made, muscular, vigorous, and active. They wear no clothes, except a piece of cloth or a kerchief wrapped around their loins; but they are fond of obtaining hats and old woollen jackets, which they are allowed to wear in their own country in the rainy season. They are extremely sensible to cold during this season, but never appear to suffer from the heat.

They are generally gay and cheerful in their dispositions, and frequently talkative and noisy, often evincing much talent for mimicry. They seldom speak English well, and they understand it but imperfectly. They are very fond of adopting what man-of-war sailors call "pursers' names," such as "pipe of tobacco," "bottle of beer," "tin pot," "pea soup," half dollar," "after breakfast," &c. They are very sensitive; and, if harsh and angry expressions are used towards them, become sulky and intractable. But they will bear even a sharp blow, if their negligence deserves it, provided it seems to be given more in jest than in earnest.

In their general conduct, they are more deliberate than impetuous; and, although not a brave race, they are less cowardly than the tribes immediately above and below them.

Among themselves they are exceedingly hospitable; and when absent from their country, those who are unemployed are supported by those who are receiving wages. In their expenditures they are rigid economists, a little tobacco being the only luxury which they allow themselves; in every other respect, they are content with the bare necessaries of life. A small quantity of ship-biscuit was the only article of provisions taken by those who accompanied me in my boat expeditions. Although fond of rum, they never buy it, and never drink to excess when it is given to them; and their clothing on board of a man-of-war consists only of a flannel shirt and drawers, and a straw hat. On board of trading vessels they wear their shore attire, and the cost of their clothing is insignificant.

The residue of their gains is converted into such goods as are most valuable in their own country. In eighteen months or two years a sufficient stock has been collected, and the Krooman returns home with his wealth. A certain portion is given to the head man of the town; all his relations and friends partake of his bounty, if there be but a leaf of tobacco for each; and his mother, if living, has a handsome present. All this is done in order "to get him a good name;" what remains is delivered to his father "to buy him a wife." One so liberal does not long want a partner. The father obtains a wife for him; and, after a few months of ease and indulgence, he sets off afresh to different parts of the coast, from Sierra Leone to Fernando Po, to get more money. By this time he is proud of being acquainted with "white man's fashions," and takes with him some raw, inexperienced youngsters, whom he initiates into his profession, taking no small portion of the wages of the *elevès* for his trouble. In due time his coffers are replenished; he returns home, confirms his former character for liberality, and gives the residue of his wealth to his father "to get him another wife." In this way he proceeds for ten or twelve years, or more, increasing the number of his wives, and establishing a great character among his countrymen; but scarcely a particle of his earnings, except in the article of wives, is at any time applied to his own use.

A Krooman sometimes presents his favorite wife with one of his front teeth, which he has extracted for the purpose; and he mourns for a departed friend by shaving all the hair from the back or one side of his head.

The name "Krooman" is said to be a corruption of the term "crew-men," because of their general employment among vessels visiting the African coast. Among this people polygamy exists universally, and slavery to some extent; although slaves are bought only from other tribes, and are never sold to foreigners, or to any person out of their own tribe. Their houses are built of a square form, of sticks, covered with bamboo plaited, and the roof of leaf-thatch; and the floor is of plaited bamboo, raised eighteen inches on cross-pieces; and the door and loft above are not sufficiently high to permit an adult to enter without stooping, or to stand erect. There are, generally, three rooms in each house, separated by partitions of plaited bamboo. The fire-place is made principally of hard clay, near one corner of the house, where is the only window, which serves both to admit light and open a passage for the smoke. The smoke penetrates the interstices of the loft above and preserves the rice, which would otherwise be destroyed by insects.

Their furniture consists, mostly, of a few cooking utensils; the floor answers for bed, table, and chairs; and their pillow is a round stick of wood. Their dress is a piece of cloth wrapped about the loins. Their devotions are, superstitiously gazing on the moon, and a feast on the first day of the moon, among the head men, and devotional walks in a thicket called the "devil's bush;" and they depend on amulets or gree-grees for protection and defence. The latter are purchased from the gree-gree doctors, for different sums of money, according to the purposes for which they are designed. These amulets are sheep's horns, or small pockets, filled with herbs and palm-oil and dirt, made by the conjurer or doctor. These doctors are a distinct class of men, who come into the profession hereditarily—the heads of the families teaching their children the craft. The children destined to this profession enter early upon their studies under some doctor—sometimes as early as seven or eight years of age—and are distinguished by a peculiar straw dress.

These doctors profess a knowledge of herbs and roots, and to have the means of curing diseases, and are called to relieve the sick and afflicted; but their greatest reputation is derived from their imagined supernatural knowledge. The Kroo people consider death and sickness as caused by witchcraft, and they employ and rely upon the doctors to point out the person who has, by witchcraft, caused these evils. The person who is designated as guilty of the crime of witchcraft is arrested by the soldier king, and condemned to the ordeal of sassy-wood. The bark of the sassy-wood is powerfully narcotic, and a strong decoction of this the person condemned is forced to drink; and after he has drunk it he walks to and fro, exclaiming, "Am I a witch?" "Am I a witch?" while one of the executioners walks behind him replying, "You are a witch," "You are a witch," and thus continues until he either throws off the poison from his stomach, when he is pronounced innocent, or it operates as a cathartic, when he is declared guilty, and compelled to take more of the decoction, and is subjected to other cruelties which cause his speedy death. When pronounced innocent, there is great joy and triumph among the friends of the accused, who march through *the town dancing*, singing, and firing guns, and the conjurer resigns his

fee to those who employed him. These shocking scenes of the ordeal by sassy-wood were of almost daily occurrence in former times, but have been much less frequent since the establishment of missions among them. Sometimes this sassy-wood ordeal is used to decide questions between individuals; and they voluntarily drink it to prove and settle some disputed points. It is one of the most prevalent and cruel of African superstitions, and is practised among nearly all, if not all, the tribes of Africa.

The laws of the Kroo people form a body of customs, handed down by tradition from past generations, interpreted and enforced by the general council, who also enact occasional special laws, which are generally suggested or dictated by the doctor or conjurer. The laws are imperfect, inconsistent, and unfair. If one man loses anything and accuses another of having stolen it, the accused is required to drink sassy-wood water to prove his innocence. The ordeal of sassy-wood is, therefore, a penalty for almost all crimes, and exerts a powerful restraining influence on the community. When the sassy-wood so affects the accused as to condemn him, his friends may buy him off from death for different sums of money, according to the wealth of the family accused; but few are thus saved, in consequence of the poverty of the friends of the accused, and because, if once rescued, he is liable to be re-accused for any trifling offence. The ordeal of sassy-wood is frequently made to decide points of honor, precisely like the custom of duelling in the United States.

The leading motives of the Kroo people are sensuality and vanity. The men employed by vessels on the coast, and by traders as factors on shore, are industrious; but on the plantations, and in their towns, the men are idle, and the women perform most of the labor. The men build the houses and clear the plantations; but the women plant, watch, cultivate, and gather and beat the rice, and cut and bring the wood, and perform all the labor about the house; and especially those who are old and incapable of other labor, are constantly and industriously engaged in making salt, by boiling down sea-water. Salt is a principal article of trade with the interior tribes.

The women seldom eat with the men, except a man's head or favorite wife, who superintends the cooking, and first tastes the food before he partakes of it.

The system of polygamy gives rise to jealousies and many quarrels among the women. All lawful wives are purchased when children, and, on attaining a suitable age, are taken to their husbands. Besides these there is a class of women who go and live with any man they choose, and leave him for any other at pleasure. When one or more of these leave a man and run to another, the one to whom they resort fires guns, and his lawful wives rejoice with him; because they regard it as adding importance to their husband, and it relieves them from a portion of their labor. There appears to be a strong affection between parents and children, and brothers and sisters; but polygamy doubtless lessens the affection between husbands and wives.

Kroomen are passionate, but cowardly; fond of war and hunting, but have *little skill in either.* When specially intrusted with property *they may be expected to be faithful;* but if they can slyly steal, they

are apt to do it; and in case one of their number informs against the thief, it is the law that the informer shall pay for the stolen property.

With respect to intellectual improvement, the condition of the Kroomen may be considered as stationary. It is universally admitted, that if a Krooman were to learn to read and write he would be put to death immediately. Distinction, respect, power among his own countrymen, as soon as age permits it, are the high objects of each one's ambition. He is trained up in the habit of looking forward to these as to all that is honorable or desirable. His life is spent in seeking them by the only means which the customs of his country allow; and when possessed of them, every exertion is used to train others in the same ways, in order that he may keep and enjoy what he has acquired with so much labor. All this is supported by superstition; and under the cloak of superstition are cruelty and injustice. Who shall break through these shackles? Premiums have been proposed to Kroomen if they would settle at Sierra Leone, or emigrate to the West Indies; but take away from them their desire of respect and distinction in their own country, and they are deprived of every motive for that industry and self-denial which procures for them, at present, a preference over other nations.

The indifference of Kroomen to the arts and comforts of the whites would make one regard them as a very dull race of men. A Krooman and a Mandingo were shown an English clock. It was a new thing to both of them. The Krooman eyed it attentively for about a minute, but with an unmoved countenance, and then walked away to look at something else, without saying a word. The Mandingo could not sufficiently admire the equal and constant motion of the pendulum; his attention was repeatedly drawn to it; he made all possible inquiries as to the cause of its motion; he renewed the subject next morning, and could hardly be persuaded that the pendulum had continued to "walk," as he called it, all night. In general the case is nearly the same. Kroomen have little or no curiosity about things which are of no use in their own country; they are careless about our comforts and luxuries; none of them have been rendered necessary by habit, and they would often be inconsistent with the principal objects of their pursuits. But they are sufficiently acute and observant when occasion calls their minds into action.

They have not the use of letters, and will not permit their children to learn; they talk miserably bad English; and, living by daily labor, which is paid for in goods, they have no occasion for manufactures of their own. They have, therefore, but few opportunities of displaying peculiar talent. They make their own canoes, several of their implements of agriculture, &c., and some trifling musical instruments; and they sometimes plead in their own defence with much art. The evidence against one examined on a charge of theft was so strong, that few men would have had the boldness to deny it. The culprit, however, began a long speech with expressing his sorrow that the judge was not born a Krooman, and proceeded to enlarge on the superior ability he would, in that case, have possessed to distinguish between truth and falsehood in all cases wherein Kroomen were concerned, not orgetting the security against deception which he might possibly have *btained by* means of those fetishes of which white men know not the

value nor the use. Had the judge possessed but these advantages, he would have known, he argued, how much more safely he might rely on *his* veracity than on all the evidence produced against him, although it was backed by the unfortunate circumstance of the stolen goods being found in his possession.

A Krooman will never sell a Krooman, or allow him to be sold by others, if he can prevent it. Partly from their general usefulness on the coast, partly from the probability that the sale of a Krooman would be severely revenged, they have gone about everywhere in slave-ships and to slave factories, and were active agents in the slave trade, without any more apprehension of being sold themselves than if they were white men. At home their numbers make them formidable to their neighbors, and they seldom seem to be engaged in war but when great divisions exist among themselves; few, therefore, are ever sold.

Nearly all the vowels of their language are pronounced very short; the consonant indistinct, with occasionally a strong nasal sound, particularly in the numbers two and three; an apostrophe after a word marking that short breaking off of a sound (without dwelling on the last letter or connecting it smoothly with the first letter of the next word) which is common in many languages on the coast.

The country from Cape Mount to Cape Palmas is an inhabited strip along the seacoast, with a wooded desert behind it, which separates it from the more populous interior, and the coast tribes are ingenious and persevering in their endeavors to obstruct the intercourse of strangers with those residing inland.

As much by drifting as by sailing we reached Sinon, where a Liberian schooner and a square-rigged vessel were at anchor; and one of the latter was in sight, bearing down from the north. The anchorage is an exposed one for large vessels, but smaller ones find a partial shelter from the southwest wind, and its accompanying heavy sea, behind Bloobana Point. The Sinon, a small but placid river, was selected about eighteen years ago by colonists from Mississippi and Louisiana, with a few from South Carolina, who, after acclimating at Monrovia, founded the town of Greenville on the right bank, just above the river's mouth.

From the sea this settlement presents an attractive appearance. Directly abreast of it the shore curves inwards, and then stretches to the north, a long line of yellow beach, fringed with a deep forest. To the south are two shallow bays, separated from each other by projecting crags of ferruginous rock, the curved beach of sand bordered like that of the northern shore. At the northwest extremity of the northernmost bay is the promontory of Bloobana, a broad, high rock, its surface bare and smooth to the summit, which is covered with luxuriant foliage. At the inland base of the promontory are the brown, conical huts of the Bloobana tribe. Outwards, in a line with the promontory, and at half a cable's length distance from it, is a ledge of detached rocks, washed smooth by the surf, which at low water are covered with sea-gulls; and between the two is the bar.

Immediately after crossing the latter, the river, which is about sixty yards wide, opens short to the right, round the bluff promontory, and in fifty yards *turns sharp to the* left by a low, sandy point, immediately

opposite to which, near the southern shore, are two smooth, rocky islets—the nearest one bare, the farthest capped with vegetation—presenting a fine contrast between the iron-tinted rock and the rich green upon its summit. Ascending the river there is a low, sandy peninsula on the left, which becomes wider and more elevated until reaching the settlement half a mile distant.

The opposite bank is high, with several abrupt patches of ferruginous rock. Greenville faces the sea, and the river flows behind it. It is regularly laid out, and Mississippi avenue, with a row of dwellings on one side and open to the sea on the other, is a delightful promenade. The houses I considered by far the neatest I had seen—two of them were quite handsome two-story ones; and the gardens were in better condition than those of Monrovia. There are about sixty houses and between three and four hundred inhabitants in the settlement. The churches are the least reputable features of the place; but, although unprepossessing in their exterior, their congregations were creditable in costume and deportment. My visit was at the time of the annual meeting of the Baptist association, and the members of that persuasion thronging into the settlement gave it quite a lively appearance.

There are a number of mechanics in Greenville, particularly carpenters, and in the outskirts of the town I saw a steam saw-mill, to which lumber was rafted from the river by an artificial canal. The Bloobana district, opposite to the settlement, is very properly described by the Rev. Mr. Gurley as high, rich, and inviting, and he judiciously points out the summit of the promontory as an eligible site for a light-house.

Above Greenville were founded the settlements of Rossville and Readville; but the country around them, although slightly rolling, is subject to inundation. The soil is composed of stiff clay overlaid with vegetable mould, excepting the river bottoms, which are made up from the deposites of annual inundations. Rice is the principal growth relied upon as an article of food; but, like the settlements on the Junk and the St. John's, the colonists do not cultivate sufficient for their own consumption. A great quantity is, however, raised by the natives; and such is the productiveness of the soil, that slave vessels, when that baleful traffic was at its height, resorted to the Sinon to purchase their stores of rice. The principal article of export at present is palm-oil; but much attention is now being paid to the culture of the coffee-plant, which, in beauty and fragrance of foliage and flower, equals the orange tree, and far surpasses it in the utility of its fruit. Its deep-green leaves and snow-white blossoms would remind one of the orange, if its delicious perfume, borne on the wind, had not anticipated the comparison.

The river, although deep within the bar, is navigable only seventeen miles to the falls, beyond which it runs shallow and obstructed, through the same belt of wilderness which lies behind the colony inland throughout its entire length, and constitutes the great barrier to the more speedy improvement of settlements along the coast, and the civilization and conversion of the natives in the interior. The forest is dense beyond conception. The crowded branches of the trees, twisted and interlaced, each bearing its full crop of foliage, form one wide

canopy, which the sun looks upon but cannot penetrate; while beneath, shrubs and climbing plants weave themselves into tangled and impenetrable thickets. The timber of many varieties is harder and heavier than any in the United States, the live oak excepted, and much of it, even when seasoned, will not float in water. There are also others, corresponding to our pine in lightness; and whether for houses, ships, or furniture, the mechanic need never be at a loss for a selection. The caoutchouc or India-rubber tree grows also large and abundant here; its stems, branches, and leaves emitting copiously the viscous fluid which is elsewhere so profitable an article of commerce.

The domesticated cattle are small in size, but there is a large wild breed, having short horns, with hides nearly destitute of hair. There are many deer in the forest, and leopards are occasionally seen. In consequence of the dense undergrowth near the coast, the range of the elephant is quite far in the interior. A good deal of ivory is from time to time brought down; and from the inequality of many of the tusks, it may be inferred that more elephants die of disease than are killed by the natives. Lizards and chameleons are common; but it is averred that serpents are rarely, and venomous ones *very* rarely, seen. But three kinds are, I believe, known to the colonists; and although the natives are unquestionably acquainted with others their accounts, are confused and unintelligible.

This section of country is thinly inhabited by a mild and inoffensive race, who are fond of agriculture, and represented as the most industrious of any on the coast, but as very filthy and disgusting in their habits. They form one of the divisions of the Great Bassa tribe. Through the head man of the principal village on the Sinon I met three natives, who represented themselves as coming from a country ten days' journey inland. A day's journey in Africa is about twenty-five miles; but as the natives never clear obstructions from their path, making always a detour to pass them, and even where there are no obstacles preferring a zigzag road to a direct one, their country cannot be more than 150 miles from Greenville; but whether directly inland, or diagonal with the coast, I could not ascertain. From the density of the forest through which they travelled, they took no notice of the bearing of the sun at various times of the day, and could give no other clue than that they came from the highlands to the sea.

From their account, I inferred that their country is not a mountainous one. They represented the climate as but little colder than that of the coast; and their representation was confirmed by the scantiness of their attire, being a single cloth about the loins, worn pendant instead of being passed in and out between the legs. Their country abounds, they said, with goats, sheep, and cattle, and the two first would have supplied them with skins for garments if the climate were a cold one On the other hand, they stated that they possessed a breed of dogs with long hair, whereas the few to be seen along the coast are almost devoid of any hair whatever. They have neither crocodiles nor horses, and little camwood or ivory, but a great deal of palm-oil. The nut-bearing palm-tree is known to be confined to the seaboard, and the crocodile delights in the muddy deposites of wide-spread estuaries; but the camwood *does not grow*, and the elephant is never found

on soil which, subject to inundation, cannot sustain his enormous weight. I can only reconcile these conflicting accounts by the conclusion that these men came from a country just beyond the belt of forest between the coast and the interior, and not more than 70 or 80 miles in a direct line from the sea. They were unquestionably Bushmen, and, excepting some Arabs of the desert, the wildest and shyest beings I have ever seen. They were under the medium stature, but exceedingly broad-chested and muscular. Their bodies were long, their legs unnaturally short. and their whole appearance indicated great strength combined with extraordinary activity.

From a single interview, although a prolonged one, it would be unwise to form a decided opinion; but, the impression left on my mind was, that with equal native shrewdness, they evinced less duplicity than characterizes the tribes along the coast. From Tolon, themselves, they named the following tribes as inhabiting the intermediate country, commencing with the seacoast: "Twah," "Nenvoo," "Ghepoh," "Tygepoh," "Drapoh," "Nafou," "Sapoh," "Cabadeh," "Tairoo." Notwithstanding their uncouth and savage appearance, these men, after their first shyness wore off, exhibited much social feeling, and a marked love of humor.

The Sinon is navigable to as great a distance as the St. Paul's, but its banks are less thickly settled, and there is less water on its bar; but the soil is fertile, and the heaviest vessels built for the coasting trade can enter the river with facility. The first settlers were unquestionably energetic and industrious; and from the aspect of Greenville, I should judge that there has been no great relaxation. There is throughout the place a pleasing aspect of prosperity, and I consider it the prettiest settlement I have seen in Africa.

The rivers "Dehvoeh," "Coroo," and "Teeroroah," are the principal streams flowing into the Atlantic between the Sinon and the Garraway, the southern line of the republic. The coast preserves its low, monotonous character, only throwing up a sufficient number of detached elevations to prevent its being classified as one unbroken level. The first of these interruptions is a solitary hill abreast of Kroo rock, about ten miles below Sinon. Twelve miles further, south of the Coroo, are three elevations, one of them 260 feet in height. Twenty miles beyond is a hill just within Sesters Point, 210 feet high; and in a line with it, a short distance inland, is a range commencing at Flat Hill, and becoming mountainous as it stretches into the interior; and in a northeast direction from it, the Sugar Loaf shows isolated 730 feet in height. At New Sesters was the last slave factory between Cape Mount and Cape Palmas. South of Grand Sesters is Table Hill, 190 feet high near the shore, with the Paps, two rounded summits, a few miles inland; and from thence to the Garraway, the southern boundary of the republic, are five or six hillocks, mostly contiguous to the shore.

The imports of the Republic of Liberia, on which duties were paid for the year ending September 30, 1851, amounted to $166,000. The exports, of which no account is kept, may be safely estimated at a much larger sum, as along the entire coast commerce increases rapidly.

From the Garraway to Cape Palmas is the Atlantic coast of territory settled by the Maryland Colonization Society. At the latter point the

coast line tends abruptly to the east, along the Gulf of Guinea, as far as Cape Lahore. Between the Garraway and the first named Cape, besides the hill of Kabla, 290 feet high, near the shore, there are but three elevations visible from the sea, of which Flat Mountain is 1,090 feet in height; all else is level forest.

Cape Palmas is a bold promontory, in a marked geographical position, where the Atlantic suddenly swerves to the left and forms the Gulf of Guinea. From the current which sweeps into the gulf along the coast, all vessels bound in that direction avail themselves of it and pass within sight of the Cape, which must eventually attain great commercial importance. The extremity of the Cape is crowned with a light-house, and is separated from the main land by the Hoffman river, which has from three to seven feet water upon its bar, and is navigable but a short distance from its mouth. The fine headland, the scattering houses upon its summit, the rocky islet on one side, and on the other, across the river, the wide extent of country, part forest and part prairie, present, from the anchorage, a beautiful appearance. The rocky islet, formerly used by the natives as a receptacle for their dead, is now called Russworm's island, in honor of the first colored governor of the colony. It is small and irregular in its outlines, the chafing of the sea having worn deep fissures in its sides. Between it and the peninsula is a narrow channel, practicable only for boats. Back of the Cape are seen houses of colonists, and the conical peaks of native huts, which, from the sea, appear to be confusedly intermingled. In the distance, shooting up from the plain, or overtopping the woodland, are many detached hills, one of them to the north (Mount Vaughan) rendered conspicuous by the buildings of an Episcopal mission.

On visiting the shore we pulled by a snug cove, with rocky extremities, but a smooth sandy beach between, just within the pitch of the Cape, and, crossing the bar without difficulty, landed at a small stone wharf just within the river's mouth. Immediately at the head of the wharf is a large stone warehouse, from whence a good winding road leads to the summit. On this broad elevated platform are the colonial settlements of Harper and Latrobe, with two native villages between them. The village of Harper consists of one wide street, with the government house, the custom-house, a number of private dwellings, and at its northern extremity the light-house, besides a large stone building under construction, intended as an orphan asylum.

From this settlement a broad McAdamized road leads by the native villages, through Latrobe, to Mount Tubman, three miles distant. Latrobe consists of a number of small farms, with the dwellings neatly enclosed, stretching some distance on both sides of the road. The first native village, within which is the royal residence of the king, contains about 200 thatched huts and 1,000 inhabitants: the second one, about half a mile from it, below the hill and nearer to the river, has about 300 inhabitants. The Grebo tribe, to which they belong, owns the territory from Fishtown to the Cavally river, but are almost wholly confined to the seacoast, their territory being about thirty miles in length, by six to eight inland.

Turning aside from the road, by far the best I have seen in Liberia, I entered one of the *largest huts* of the principal village. The walls

were plastered inside and out, and the thatched roof projected all round, two feet beyond them. There were three low doors, one in front and one on each side. Suspended to the wall, opposite to the front entrance, were from forty to fifty white wash-hand-basins, and before them, on the mud floor, were eight or ten large stone jars. According to the quantity of crockery thus exhibited, is the estimated wealth of the proprietor. A fire was burning on the floor between the two side-doors, and two piles of cut wood were suspended from the rafters, as a reserve store for wet weather. Over the fire was a frame for rice in the ear, and many bunches, hung to the rafters, were designed for seed. In one part small beams were thrown across which supported a rude flooring, with a ladder to ascend to it, made to trice up and held by a hook. There were two men, one woman, and a child, in the hut, which was far more spacious within than one would suppose from its external appearance.

The natives seemed less sprightly and intelligent, and certainly, as far as costume can indicate it, are less civilized than any I have seen in immediate contact with the colonists. But there is said to be a slight improvement. Formerly, a narrow piece of cloth in front constituted the whole attire; now, a corresponding piece is worn behind, but the appearance is disgusting. Yet even here fashion has its votaries, and none but the aristocracy can aspire to the color of the season.

I likewise visited the Fetish House, which in its exterior presented no perceptible difference from the others. The idol, made of wood, was about fifteen inches high, a misshapen figure between that of a monkey and a man, with a small, dirty feather drooping from its head. It was fenced in on three sides, and in the enclosure were some tin pots and trumpery, all covered with dust. There was a fire in the corner of the hut, and a woman, with a child in her arms, seated beside it. These people regard their Fetish as an evil spirit, whom in evil times they seek to propitiate. They have no regular time for worship. Some years back the last human sacrifice was offered. A man of this village, believing it necessary to sprinkle human blood upon his Fetish, in order to avert some threatened calamity, employed another to kill a boy for him. But the employer was obliged to fly, and will be severely punished by the tribe should he return.

There are eleven new houses being built by the colonists, besides the Orphan Asylum and the Methodist church, and there was a great demand for building materials. In other repects there were few indications of prosperity, and not many signs of trade perceptible to the eye of the observer; yet the value of the imports last year was nearly $100,000, and of the exports upwards of $80,000. The trade of the colony with the interior is very injuriously affected by trading vessels, which, being driven from the coast of the republic by a rigid enforcement of its revenue laws, carry on their traffic along the shores of this colony almost within sight of Cape Palmas.

On the road from Harper to Latrobe I met two ox-carts, drawn by two small oxen each—one of them belonging to the society, the other the property of an individual. I likewise saw a native mother feeding her child in a peculiar manner. The little thing was laid between her *knees, face* upward, and its feet towards her. With one hand the

mother held it down, and with the other filled its mouth from time to time with soft boiled rice, which was smoking-hot. When the mouth was crammed full, she pinched the infant's nose until the rice was swallowed. They think that a child never gets sufficient nourishment from the breast, and that to thrive it cannot be stuffed too freely.

There is here a public farm of sixteen acres, of which ten were in cultivation when I saw it, and the remainder was used as pasturage. There were some coffee-trees, and the cassada, sweet potatoes, plantains, and Indian corn, were in cultivation. The coffee-trees did not seem to flourish, and altogether the farm presented a less thrifty appearance than it doubtless would have done had it been individual property. It is ever the case, that management by deputy will never compete with the superintending vigilance of the owner. I mean to cast no reflection on Dr. McGill, the colonial governor, whose time is engrossed by more pressing and important cares.

In the two colonial settlements there are 122 voters and about 800 inhabitants. I was there on an election day, and the place was quite lively. The people were in their best attire. The men gathered in groups near the building where the poll was held, while the women stood about in the shade, principally near the stands, where some of their sex displayed, on long tables, cakes, fruit, etc., for sale.

A short time ago it was unanimously decided to declare the independence of the colony, and this day the voters were assembled to elect commissioners, to proceed to the United States and confer with the Maryland Colonization Society on the subject. At the same time, delegates were to be elected to a convention for forming a State constitution. This act, seemingly premature, is, I believe, the offspring of necessity. I am inclined to think so from what I see around me, and am convinced of it by the concurrence of the Society at home, which in most respects has heretofore so wisely directed the affairs of the colony. The election was conducted in a quiet and orderly manner, and I am satisfied that in its climate, soil, geographical position, and the general character of its settlers, this colony possesses the elements of undeveloped prosperity. The settlement has heretofore been retarded in its growth by the number of emigrants sent out, who were either infirm in health, feeble from age, or indolent in their habits and of listless characters—too many recently emancipated from slavery, with no idea of freedom beyond exemption from labor. A better time is approaching; and when the colony becomes an independent State, it will compete with its sister republic to the north, in the advantages it presents to the enterprising settler.

In and around Cape Palmas, for four or five miles from the shore, the soil is a sandy prairie, but soon presents clay, covered with vegetable mould; and in the valleys between the clumps of hills, which are seen in every direction, is a rich alluvial soil, capable of supporting an immense population. Among these valleys are found most of the native villages.

Just below the principal village is the grave of King Freeman, who was in life a warm friend of the colony. In a rude enclosure, just large enough to contain them, are two huts, and in one of them is the *royal grave, unmarked by* mound or tombstone. The broad-brimmed

straw hat of the deceased alone indicates the spot. Without the door of the hut are some old clothes torn into shreds, and many fragments of pottery. The former are torn, and the latter broken, because the natives believe that the spirit of the departed can unite them at will, while in their dismembered condition they present no temptation to the living. The opening to the enclosure is never secured; it is directly beside the thoroughfare between the two villages, but seems neither to attract nor repel the people continually passing to and fro. Except the stranger, monkeys from the adjoining wood seem to be its only visitants; and the latter visit it unmolested, for although this people are fond of them as food, and will destroy them elsewhere, they hold them sacred in a grave-yard.

King Freeman did not, as is usual, name a successor. Great funeral honors were paid to his remains by the colonists, which so gratified the tribe that it was conceded that no one should be made to drink red water, except about half a dozen who were accused of "making witch for the king," and the privilege was granted to the colony of naming his successor. The one selected was Peroh-Nah (Yellow Will,) a stout mulatto, with a frank, intelligent countenance.

The ordeal of sassy-wood may now be considered obsolete with that portion of the tribe in the immediate vicinity of the settlements; and in some of the villages of the tribe labor is forbidden on the Sabbath; but from what I could learn, compensation is expected for the lost day.

The Grebo language is different from that of the Bassa's, although they have some affinity to each other. It has been reduced to a systematic form by the Rev. Mr. Wilson, and is used in the schools and religious exercises of the mission. The Grebo tribe is estimated at about twenty thousand, and they are represented as docile and industrious, but much addicted to thieving. The above named reverend gentleman, who resided for some years among them, states that although each tribe has its king, there is not a feature of royalty in the government: so different is it from the arbitrary despotism which prevails in certain parts of Africa, that it may be regarded as the purest specimen of republicanism to be found in the world. The people govern, and they govern *en masse*. All proceedings, whether legislative, judicial, or executive, are conducted by the people in a body, and the majority enact, abolish, suspend, and execute all laws whatever. No office is hereditary, and there is nothing like caste. Kings, chiefs, men, women, and children, eat, drink, sleep, and mingle together in the common affairs of life with as little restraint as the herds of cattle which graze in their meadows. Kings think it no detraction from their dignity to perform the most irksome drudgery, and to labor side by side with their poorest subjects, provided there be no one to witness it who would probably deride them for it. In some respects the government is patriarchal. Each family in the male line keeps itself entirely distinct from the others; and there is always one representative head, who is the guardian of the property and the protector of the rights of the family. When a family becomes too large to transact business without inconvenience, it is divided, and subordinate heads are appointed. *These subordinate* heads manage all their affairs separately, except in

matters of great moment. The head man of each family receives and holds all the money and other property of its different members. He is accountable, however, for the disbursements of the common stock. He is required to purchase wives for the young men, and is responsible to the people at large for the payment of all fines which may be imposed upon the members of his family. However successful any one individual may be in amassing property, he cheerfully deposites almost the whole of it in the house of the head man of his family, and seems amply repaid for his toil in having the satisfaction to know that he has contributed largely to the common stock.

The old men who stand at the head of their respective families are much revered; and when they unite on a particular measure, their influence is very considerable, and their decisions seldom reversed. But there does not seem to be anything like political organization among them.

There are four prominent offices among them: the Bodio, the Tihbawah, the Worabank, and the Ibadio. The two first are sacred offices. The Bodio is the protector of the people and the town. His house is of a different shape and much larger than the others; it is something of a sanctuary, and is a place of refuge for all culprits who fly to it. If a criminal can enter the house and place his hands upon the great gree-gree, no one but the Bodio can remove him. In front of the Bodio's house important oaths are administered, and perjury under such circumstances is guilt of the deepest dye. If the Bodio puts his hand upon a person condemned to drink sassy-wood water, the latter goes free. He wears a plain iron ring round his ankle, as the badge of his office, and if that should by any means be removed or lost, he would lose his office and be subject to a heavy fine. He is subjected to a great many singular restrictions. He must never sleep out of his own town; the rain must never touch his head; and he is never allowed to sit down, except upon a monkey skin, which he always carries in his hand. He is restricted from certain kinds of food, and on burial days he is not allowed to partake of any food whatever until the sun has gone down; and he can wear only one kind of cloth.

If a stranger has a complaint against any individual in the town, he prefers it before the Bodio, who calls a town council and presides at it, but has no power to decide any case without the concurrence of the people. The wife of the Bodio is a person of still greater sanctity; any lewd intercourse with her is always most severely punished. On no consideration whatever would she be allowed to be absent from home one night. If the town burns down, and months elapse before it is rebuilt, she must sleep on the spot, whatever be the state of the weather.

The Tihbawah is the judicial head of the soldiery. He is subjected to nearly the same restraints as the Bodio.

The Worabank is commander-in-chief in time of war. The interpretation of his name is Tower Tail, and its origin is a little singular, but in strict accordance with the notions of Africans. Here, as everywhere else in the world, the post of most danger is the post of greatest honor. Hence the rearmost rank in retreat, which is very common in their warfare, *is the place of* greatest danger, and he who has bravery

enough to occupy it, becomes the commander-in-chief. His authority is never exercised until war is declared, and then he has more power than any other individual in the community. He is subject to none of the restrictions of the Bodio and the Tihbawah, but eats, drinks, and wears what he pleases.

The Ibadio is associated with the Tihbawah, and is something of a civil magistrate among the soldiery in time of peace. But the most powerful and efficient organization is the soldiery. They constitute the bone and sinew of the body politic. It embraces the chief part of young and middle aged men. They fight the wars of the people, and they repay themselves abundantly for their toil and exposure by their high-handed and exorbitant exactions both in peace and war. It is an elective body. No one can be admitted into its ranks without paying an initiation fee, which is usually a bullock. They receive a great many presents to avert rapacity, and they help themselves to much that is not given to them. They never deprive a man of his property, however, without alleging some crime against him. The charge of witchcraft is one they can always bring forward with some plausibility, and the result of the prosecution, if nothing worse, always turns a bullock into their hands. But the people understand their interests, and save their property, and perhaps their lives, by voluntary offerings.

There is no other restraint but interest on this powerful body. As it is constituted by representation from each family, and as all fines imposed upon an individual must be paid out of the family stock, they naturally restrain each other, and prevent much lawless aggression. They do not often oppose the influence of the old men, and rarely, if ever, reverse their decisions; but the old men are careful not to infringe upon the prerogatives of the soldiery. The latter enforce all decisions that are passed by the people in a collective capacity. If any one refuses to pay a fine that is imposed, it is only necessary to report the case to the soldiery, who are always glad of an opportunity to interfere, for, besides collecting the fine, they always abundantly indemnify themselves for their trouble. In time of war they may seize and kill any cattle they please, and the owner does not dare demur. If he charge one of them with stealing, they employ the following test: The accused is taken to the water-side, and an open basket is provided. The accuser is told that if the basket holds water the soldier is guilty, but should it run out the charge is pronounced a false accusation, and he who has preferred it is fined three-fold for his audacity. The mode of trial is well understood, and few expose themselves to the snare.

There are no other magistrates in this tribe, and all cases of dispute are submitted to the people for adjudication. They have no written laws, and all their decisions are made *viva voce*. They never inflict capital punishment; and although the husband often castigates his wives, sometimes severely, the children are indulged to the utmost, and are never whipped. Banishment is the highest penalty ever enforced. Almost every trespass is punished by fine, which is regulated *not so much* by the nature of the offence as by the ability of the delinquent to pay. For stealing, the thief is required to restore two, three, *and sometimes* four-fold.

The charge of witchcraft is the most disgraceful that can be alleged. They have several trials by ordeal. One of them is to dip the hand nto boiling oil. If it can be submerged in the oil and taken out unnjured, the accused is declared guiltless; if not, he is condemned. Another, more serious, and more universal along the entire coast, is the rial by sassy-wood water, which is regarded as an infallible mode of letecting witchcraft. The bark of the tree is procured, and from it a strong decoction is prepared, which the accused is enjoined to drink. If he disgorge it, he is pronounced innocent; if not, his death is inevitable. This trial by sassy-wood *is always voluntary* on the part of the accused; he is not compelled to drink it, but death is preferable to the suspicion of witchcraft, and many who perish drink it in the confident belief that it will not injure them.

The will of the people is the law of the land, and no man can prosper who does not conciliate public opinion. If any one be more successful than the rest of his tribe in accumulating property, he becomes the subject of jealousy, and some charge is sure to be preferred against him. This would seem to be a great drawback to industry; but it is not so with Africans. They scarce know what discouragement is. If the whole property of an individual be swept away by fire, or the violence of a mob, in good glee he immediately sets to work to repair his loss. Enterprising men have seen the whole of their property destroyed three or four times in their lives without manifesting despondency, or relaxing their efforts to retrieve their fortune.

The families of the tribe are so much interwoven, and their marriages one with the other are so frequent, that the interest of each community requires that it should deal equitably with others; and they have too many mutual drawbacks upon each other to allow any high-handed or unjust procedure. Litigated points between individuals are frequently referred to a third party.

The treaties of the tribe are held sacred, and they have several ways of ratifying them. The most common is the following: The parties concerned take each a mouthful of water from the same vessel and eject it in the presence of witnesses, at the same time calling upon God, the devil, and the town, to bear testimony. They have another, that is employed on extraordinary occasions, particularly when a league of amity is for the first time established. An incision is made upon the backs of the hands of persons belonging to the two parties, with the same knife. By this means their blood is mingled, and they become one people. Treaties thus ratified are as inviolable as any in the world, and may be relied upon with implicit confidence.

Much that I have said, especially respecting the tribes, apart from what I gathered myself, is derived, some of it *verbatim*, from Dr. McDowell and the Rev. Messrs. Connelly and Wilson.

Anxious to obtain information respecting the river Cavally from Bishop Payne, of the Episcopal church, who resided in its vicinity, I started, on the 16th February, at 7 a. m., in company with Commander Barron and Surgeon Sinclair, on a visit to Half Cavally, the seat of the mission. * Landing at Harper, we walked to Latrobe, and from thence embarked on Shepherd's lake, which lies lengthwise parallel to the sea, from *which it is separated* by a high and narrow strip of sand. In

an hour and a half we arrived at the head of the lake, after passing Half Grahway and Grahway, two populous villages of the Grebo tribe, situated on the narrow strip between the lake and the sea. These villages are fenced in by palisades, eight to ten feet high, with an opening at each extremity, barely wide enough for one person to enter at a time, and so low as to require him to stoop in passing. Thence, walking a quarter of a mile, we came to another very large village, and a few hundred yards further to a smaller one, inhabited by the same tribe. There were many women and children about, looking contented and healthy; but there were very few men visible, they being absent preparing the fields for planting rice the approaching rainy season. The few males who fell under my observation were better clothed than the females; and this remark is applicable to all the tribes I have seen. The men seem here to have invaded the privileges of the other sex in two particulars—by evincing a greater love of dress, and by monopolizing the use of needle and thread. The husband mends the household garments, while the wife splits wood for the fire. There is but a single variation in the costume of the female—the occasional change of color in the only article they wear, which bears the same proportion to a civilized garment that a waist-band does to a pair of unmentionables.

After passing this second village—one mounted on a jenny, and the other two in hammocks borne by natives—we travelled along the sea-beach about three-quarters of a mile; and then turning to the east, traversed a sandy prairie for two miles, and reached a rocky knoll at its extremity, close upon the sea, where we found some look-outs from an adjoining populous village. Pursuing our course between the palisades of the latter and the sea, we passed through another populous village, and entered immediately upon the precincts of the mission.

A little beyond the palisade of the last village was a broad avenue, lined with wide-spreading cocoa-palm trees, leading up a gentle ascent, on the summit of which was the mission-house. A little below it, on the left, we noticed the foundation and part of the superstructure of a large brick church.

The mission-house is a frame building, and although seemingly commodious, resembles imperfect joint-work, presenting the appearance of having been constructed in detached parts at different intervals.

The plan pursued in this mission seems to be the best adapted of any I have observed or heard of for reclaiming the African. By the usage of the tribes, females are contracted in childhood, the future husband making payment in advance, and the father binding himself to deliver up his daughter at the marriageable age. Heretofore the females taught in the missions have been claimed by those to whom they were affianced, after having, with apparent conviction and zeal, embraced and for some years practised Christianity. The consequence was, that they fell back to barbarism. In like manner the males, returning to their tribes, would sink under the pernicious influence of polygamy. But Bishop Payne (I believe that the credit of the suggestion is due to *him*) *obviates* the first difficulty, by paying the price for a female child *and receiving* her into the mission, to be educated by the accomplished *and devoted* ladies connected with it. In like manner, the boys are

taught a trade, as well as their catechism and grammar, by the reverend gentlemen; and when the former attain the age when heretofore they have left to rejoin their tribes, employment is given them by the mission, and every inducement presented to marry one of the educated native females, and settle within the precincts. In this way there is now a village on the mission premises of about sixty native Christians, occupying comfortable houses erected by themselves. This is a slow and expensive, but seems to be the only effectual, mode of retaining in the Christian fold those who have been reclaimed from barbarism, and whose descendants may prove powerful auxiliaries to future messengers of the Gospel.

I ascertained that it would be almost impossible to cross the bar of the Cavally river, except in a boat during the most favorable season; I would not, therefore, detain the John Adams to proceed to the mouth of that river, as it might take weeks to return against the current to Cape Palmas, although the distance is but fifteen miles. I determined, therefore, to postpone my visit to the Cavally until the arrival of the steamer, when it was my purpose to make a second and more thorough examination of the rivers along the coast, crossing the bars with the vessel, and ascending with her as far as possible.

While at Cape Palmas, Dr. McGill, to whom I am indebted for much information and great kindness, took me through the hospital containing the sick among the recently-arrived emigrants. As far as I could judge, the type of fever in each case was a mild one. Since it has been discovered that quinine can be administered in large doses, even during the paroxysm of fever, the mortality among colored emigrants, I am assured, has been diminished fifty per cent. Such is the adaptability of the constitution of the colored man to this climate, that, after recovering from sickness, he can attain and preserve his previous health and strength. On several occasions, when I could scarce endure the fiery rays of the sun, colonists would be walking along bare-headed, who laughingly declared that they rather enjoyed than suffered from the heat. The white man, on the contrary, never becomes acclimated; and after he has undergone the ordeal of the fever, if he do not recruit his strength by seeking for a time a more congenial climate, he will, according to his vital energy, meet with a lingering or a speedy death.

The day after returning from Cavally I visited Rock Town, a missionary school station, situated on a small stream where it flows into the sea, four miles from Cape Palmas. A projecting rocky point protects the mouth of this river from southerly winds; but the stream is shallow, and its bar is rarely crossed by anything larger than a canoe. Just within the extremity of the point is a Grebo village, and a short distance from it, on the opposite side of the stream, is another, with its Fetish House, without the palisade. They are populous, and although, like all the rest, their huts are placed irregularly, the spaces between, as in the others also, are kept scrupulously clean.

We found the Rev. Mr. Horne, with sallow complexion, laboring in his God-like vocation, teaching Pagan children the rudiments of Christianity. While above stairs, his pallid child had just passed through, and his wife was undergoing the ordeal of the climate, with none but native Africans around them, and without necessary comforts for the

sick. As I have before said, this illustrates the true chivalry of the Gospel.

The country about Rock Town is prairie, with palm-trees so beautifully interspersed as to convey the idea expressed by Major Laing, in describing another section, of having been planted expressly to adorn the landscape.

The soil is sandy, but far from unproductive; and in Mr. Horne's garden I saw, besides a great variety of vegetables, fruits, and flowers, indigenous to the climate, a number introduced by him from the West Indies.

The day after my visit to Rock Town I was attacked by the fever, and from thenceforth had not sufficient strength to make further observations.

We returned slowly to Monrovia against the current, but, on our arrival there, learned that the steamer had neither been seen nor heard from.

Being prostrated a second time, in consequence of exposure to the sun, I requested Commander Barron to proceed to Half-cape Mount river, whither President Roberts had gone with a detachment of 250 Liberians. But, unable to land there from weakness, I was forced to consider my reconnoissance at an end.

We proceeded to Sierra Leone, where the John Adams left me; and at the expiration of sixteen days, during which the yellow fever made its appearance, I embarked for home, and arrived in New York on the first of May.

In this report I have presented things exactly as they appeared to me, and at every place I visited endeavored to procure reliable information, for thus I interpreted my instructions.

It now remains for me to speak of the best place to disembark an exploring party; the proper inland route; the precautions to be taken; and the difficulties to be encountered.

I consider Monrovia the best place for a party to ride out the fever in. I believe it to be as healthy as any other settlement in Liberia, and good accommodation and nurses for the sick can there be procured. Besides, the intercourse of its inhabitants with the interior is more frequent, and extends farther inland, than from any other point I am aware of along the coast. Millsburg, at the head of the navigation of the St. Paul's, I recommend as the proper rendezvous, and the point from whence to take up the inland march.

Boporah, a populous native town, of which I have spoken in this report, lies directly in the path which it seems to me should be pursued, and it should be reached as soon as possible, and made the pivot of operations for advancing inland, and keeping up a communication with the sea-shore.

The march from Boporah should be regulated by the nature of the country, and the distance and direction of the nearest mountain range, which must form the water-shed between the tributary streams of the Niger and those which flow into the Atlantic. That range attained, *if it trend* southeast, as it most probably does, it might be followed to *the parallel of* Cape Palmas, with a particular eye to the country on

its Atlantic slope, and thence the expedition might descend and make its way to the sea.

The obstacles to be encountered would be a dense forest, (through which, in many places, a path could only be cleared with the hatchet,) wild beasts, the frequent morasses, the jealousy and possible treachery of the natives, and sometimes the scarcity of food.

The party should consist of as few whites as possible. The commander; an officer to take his place, should he perish; a physician, who should also be a naturalist; and some twelve or fifteen colonists, would perhaps be sufficient.

The energy of the white man is indispensable for such an undertaking; but, from the hostility of the climate to his race, as few as possible should embark in it. The main body, therefore, should be citizens of Liberia; but as no man of resolution and judgment would undertake to head them unless they were under military organization, and bound to follow as long as he led the way, I suggest that if an expedition be organized, the government of Liberia consent to its citizens enlisting under the flag of the United States, and thereby subject themselves to its martial code. All ought to possess physical stamina, and the whites, especially, should be in the vigor of life, and, if possible, natives of our southern States.

I have considered it my duty to collect in my route all the information I could as to the commerce of the places I visited. It has been presented in the body of this report, and few, I presume, are aware of the present magnitude and the annual increase of the commerce of Western Africa. For further information on this subject, I herewith submit the official reports of the British colonial possessions, transmitted with the Blue Book to both houses of Parliament.

Our own proportion of the African trade is very large, and might be rendered yet more extensive by forming treaties with the principal independent tribes along the coast. England has already negotiated eighty such treaties, her plenipotentiary being sometimes a lieutenant in her navy. To her honor be it said, that while looking to her commercial interests, she is not forgetful of the claims of humanity, and inserts, wherever she can, a clause prohibitory of the slave trade. She is, however, accused of reviving that trade in another form, and I submit in the appendix (No. 1) a proclamation of the President of Liberia on the subject.

I will illustrate the advantages of the treaties to which I have alluded. It is a custom of the tribes, that all traffic with the natives shall be transacted through the kings and head men; in other words, the head men and kings are the sole factors of their respective communities. By a stipulation of the treaty, these potentates become responsible for the payment of debts contracted with an English trader. Should payment be withheld when due, (for the credit system prevails here as well as in the Christian world,) the trader seeks a British man-of-war, and communicates the circumstance to her commander, and the latter repairs instantly to the place and enforces payment. Not so with the American trader. If his debtors are disposed to defraud him, he has no redress; and as native breach of faith is not unfrequent, he *cannot fairly compete* with the Englishman. With this

report I submit two maps, on a large scale—one of the republic of Liberia, and the other of Maryland in Liberia—together with views of Monrovia, the residence of President Roberts, Cape Palmas, Mount Vaughan, and Russworm's monument.

One other thing I feel impelled to say from a sense of duty, and do so most reluctantly. But, if we do not wish to be accused, and perhaps justly accused, of observing the letter and neglecting the spirit of our treaty stipulation with regard to the slave trade, we will substitute small but efficient steamers for sailing-vessels upon the African station. Judging of the future from the past, I venture to say that the frigate Constitution is of little more use in suppressing that trade than if she were in the Bay of Fundy. Nor can it scarce be otherwise. From Goree to Cape Palmas, ranging from fifty to eighty miles from the coast, is a misty region of alternate calms, light winds, currents, and tornadoes, with overwhelming torrents of rain, compared to which the refreshing showers of our own more favored clime are as dew-drops to overflowing cisterns. In the "John Adams," we were ten days making a distance which a steamer could have accomplished in thirty-six hours. From Monrovia to the island of St. Jago, vessels are often forty days on the passage, which a steamer could make in five. In one direction along the coast it is a drift with the sluggish current: in the other, it is working up against it with light and baffling winds.

I do not say that the vessels we have on the coast do not sometimes protect our commercial interests, or are not otherwise serviceable. I have mentioned the "John Adams" assisting a merchant vessel in distress; and I submit in the appendix (Nos. 2, 3, and 4) some letters from President Roberts, expressing acknowledgments for benefits derived from our squadron. But, from the causes I have enumerated, our cruisers can visit very few places compared to the number that should be visited, and, as the log-books will testify, often remain long at their anchors, or make yet more lengthy passages to Madeira to recruit—a passage which, under canvass alone, in the teeth of the trade-wind, is often more prolonged and more wearing to the ship than if she came directly home.

The service on the coast of Africa needs an incentive. Great Britain has twenty-seven vessels-of-war employed in the suppression of the slave trade on that coast, and a large proportion of them are steamers, mostly small ones. Her naval officers have every inducement to seek service on that station, for he who attains to a higher grade by the death of his superior in rank, retains it permanently, and does not, as with us, hold it but temporarily. The consequence is, that the English far surpass us in activity on the coast of Africa. A very slight incentive would cause service on that coast to be coveted by our officers and crews. Within a few years two commanders have died on that station. If the two senior lieutenants in the squadron had been promoted permanently, the files of the department would now exhibit more applications from lieutenants for service on that station than all others combined. And thus of every other grade, except the highest, which, *living on its honors*, should be influenced by higher aspirations.

The arrogance of British officers heretofore, precludes the idea of an *agreement to search* respectively the vessels of either nation. It is a

privilege which cannot be safely conceded to them, and we must at all hazards protect the integrity of our flag. But, for the honor of our country and the protection of its commerce, it is to be hoped that small steamers will be substituted for our sailing-vessels on the African coast, and that some incentive may be presented which will infuse greater activity among them, and render them almost ubiquitous in the neighborhood of the slave marts, and the parts of the coast frequented by our traders, instead of making tedious passages to and from a few places, some of them too remote by far, or too long lying suggishly at their anchors.

Since my return I have received intelligence from Sierra Leone of the capture by British men-of-war of three slavers, one of them American. The prostitution of our flag, now so much facilitated by sea-letters, obtained principally at the consulates of Rio de Janeiro and Havana, will continue, to our disgrace, until we have vessels on the coast of Africa propelled by steam, and manned with crews and commanded by officers who are stimulated, the one by increased pay and the hope of prize-money, and the other by permanent promotion when vacancies are caused by death. The climate is a trying one, and, as in battle, the places of those who perish should be filled by the survivors.

I do not permit myself to dwell on the necessity of incorporating into the international code a clause declaring the slave-trade piracy under any flag; nor on the frequent decisions of our legal tribunals, (caused by the want of such declaration,) which have so discouraged our officers. Of this want, and its attendant evil consequences, the government has been long advised.

In estimating the amount of our African trade I have been careful not to exaggerate, and rejected every item not based on authentic data; but there is so much traffic along the coast in articles never entered at a custom-house, that I have reason to believe I have given twenty-five per cent. less than the actual imports; and as the profits are very great, that the exports exceed the estimate nearly one hundred per cent. Apart, therefore, from the suppression of the slave trade, our commerce with the west coast of Africa needs the protection of an efficient force—efficient more in its power of locomotion than in the number of its guns.

A knowledge of the disadvantages under which our countrymen labor who trade along that coast, has induced these concluding remarks, and I trust they will not be considered inappropriate.

I have the honor to be, very respectfully, &c.,

W. F. LYNCH,
Commander, U. S. N.

Hon. J. C. DOBBIN,
Secretary of the Navy.

No. 1.

Proclamation.

Whereas Messrs. Hyde, Hodge & Co., of London, contractors with her Britannic Majesty's government to furnish laborers from the African coast for the West Indies, have sent some of their ships to the coast of the republic, offering an advance of ten dollars for every person who may be induced to emigrate; and whereas the extinction of the slave-trade has left large numbers of predial and other laborers in the possession of the chiefs and principal men of the country, while the offer of ten dollars each is nearly equivalent to the amount formerly paid for slaves during the prevalence of the slave trade, and which operated mainly in producing and sustaining the wars by which the country was distracted; and whereas certain refractory chiefs are reported to have engaged with the agents of said company to furnish a number of laborers, and are further known to have in concealment near Grand Cape Mount a number of the unhappy victims of their predatory excursions; and whereas complaint has been made to the government that persons are held, to be sent off without their voluntary consent, or the consent of their natural guardians: therefore, to prevent the abuses and evils which might otherwise result from the enterprise—

Be it known by this proclamation to all whom it may concern, that the law regulating passports must be strictly observed; that vessels carrying, or intending to carry away immigrants, must come to this port with their immigrants on board to obtain passports, in order that an opportunity may be presented to the government to ascertain whether the emigration be free or constrained. Every violation of the law regulating passports will be visited with the utmost penalty of the law in that case made and provided.

Done at Monrovia, this twenty-sixth day of February, in the year of our Lord one thousand eight hundred and fifty-three, and of the republic the fifth.

[L. S.]

J. J. ROBERTS.

By the President:

H. TEAGUE,

Secretary of State.

No. 2.

GOVERNMENT HOUSE,

Monrovia, November 16, 1851.

SIR: I have just received despatches from Grand Bassa, announcing that a formidable attack was made yesterday morning, about 7 o'clock, upon the settlement of Bassa Cove, by a force of about one thousand Fishmen and Bassas. After a vigorous contest of nearly one *hour, they* were repulsed with considerable loss on their part. The *enemy has retired*; but, it is confidently believed, only to return and to *renew the attack* with increased force and vigor. The settlers there

are worn down with watching and fatigue, and cannot sustain themselves much longer, without aid in men and ammunition. This is earnestly craved in the despatches, and we are now preparing to render them the desired succor; but it will require some two or three days to make the necessary preparations here, and as many more days perhaps will be occupied in reaching the scene of hostilities. As the natives expect and dread a reinforcement from this place, their object will be to anticipate it, and to strike a decisive blow ere it arrive. The presence of your vessel here, just at this crisis, seems most opportune and providential. I have, therefore, to throw myself, and the perilous and exposed condition of our leeward settlements, upon your friendly consideration, and solicit, most earnestly, that you will make it convenient to take me to Bassa, a distance of only about sixty miles. I am of the opinion, as are also those whom I have consulted, that the presence of your vessel there, and the interest in our cause which your taking me down would indicate to them, would effectually deter the natives, and stay an immediate blow, and thus afford an opportunity to reinforce Bassa Cove and put it in a state of security.

I hope, sir, you may find it convenient to lend us the aid of the presence of the ship under your command, at the scene of hostilities. Be assured, sir, it is nothing less than the call of humanity for the protection of hundreds of almost wholly defenceless women and children from the brutal rage and fury of savages; for if Bassa should be carried by them, we shall have nothing to entertain but the most gloomy anticipations for all our leeward settlements, and our numerous traders along the coast.

As it is of the utmost importance that I should, by my arrival at Bassa, anticipate an attack by the natives, I shall hold myself ready to embark whenever you shall be pleased to give me notice.

I have the honor to be your obedient servant,

J. J. ROBERTS,
President.

Captain W. PEARSON,
United States Ship Dale.

No. 3.

GOVERNMENT HOUSE,
Monrovia, January 24, 1852.

SIR: Accompanying is a letter which I beg you will take in charge for Commodore Lavallette. I have not been able, in consequence of the numerous engagements pressing upon me just at this time, to give the commodore as full details of our campaign as I could wish; and I have taken the liberty—for which I beg your indulgence—to refer to you for such further particulars of our operations as may have come to your knowledge. I enclose herewith a copy of the communication I have addressed to the commodore.

Permit me here, sir, to present—which I beg you will accept—my sincere thanks *for the services* you have rendered the people of this

republic in their present difficulties. I am fully sensible of the obligations we are under to you. I know, sir, that we have had your sympathies and good wishes with us in all our operations, and that you would willingly have afforded us other and more important services had circumstances rendered it necessary.

I beg to assure you, sir, that your kindness will never be forgotten by your most obedient, humble servant,

J. J. ROBERTS.

Captain S. BARRON,
U. S. Ship John Adams.

No. 4.

GOVERNMENT HOUSE,
Monrovia, January 24, 1852.

SIR: I have had the honor of receiving your esteemed favor of December 12th, by Captain Barron, of the United States ship John Adams, which vessel, on hearing of our difficulties with the natives of Grand Bassa, you very kindly despatched to aid us "in such measures as might be deemed necessary to establish full confidence in the minds of the settlers of their security, by assurances of protection to them by the naval forces of the United States when their situation needs it."

This kind feeling of concern for the security and future welfare of Liberia, and the sentiments of benevolence you so kindly express, sir, are sensibly felt and deeply appreciated by the whole people of this republic. Your goodness in sending them aid, at a time when they so much needed the countenance and support of a foreign power, to convince their enemies that they are not forgotten nor neglected in time of peril, places us under renewed obligations to your government and to yourself; and I assure you, sir, your kindness in this instance will endure with the history of Liberia, and I fancy will never be erased from the memory of her citizens. And in their behalf I have the honor to present, and I beg you will accept, sincere thanks and grateful acknowledgments.

Captain Barron arrived at Monrovia two days after my departure with a body of troops for Grand Bassa; without delay he proceeded to join us at this latter place, where he arrived and communicated with me early in the evening of the 1st instant. It would be impossible to describe to you the bursts of joy that ran through our little camp when the arrival of the "John Adams," and the object of her visit, were announced.

Having just returned to this place, and the time of the departure of the "John Adams" being up, I cannot give you the details of our movements, and must beg to refer you to Captain Barron for particulars. Our operations have been mostly inland, from ten to fifteen *miles parallel* with the beach, and extending along the coast about *thirty-five miles*. The presence of the "John Adams" at certain points *of the coast* along the line of our march, no doubt, had a favorable

effect, and tended much to keep the natives near the coast in check, and also afford us certain means of communication.

I have great satisfaction in stating that Captain Barron readily met my wishes in placing his ship off such points of the coast where it was deemed his presence would be most important; and also tendered his services to assist us in any other way consistent with his duty and instructions.

I am happy to inform you that the campaign, though it has been an exceedingly fatiguing one, has terminated quite to our satisfaction. We have given the deluded enemy a chastisement which he will long remember, and, I doubt not, will relieve us from any trouble or difficulty in future in that quarter. We had two severe engagements; in the last we had four killed and twenty-seven wounded, two of whom have since died; the others are doing well, and will probably recover.

With many thanks, high regard and esteem, I have the honor to be, sir, most respectfully, your obedient and humble servant,

J. J. ROBERTS.

Com. E. A. T. LAVALLETTE,
Commanding U. S. Naval Forces west coast of Africa.

C.

IRVING HOTEL,
Washington, September 8, 1853.

SIR: In answer to your letter of the 6th instant, requesting me to "furnish you a report of my labors, and their results, connected with meteorological observations conducted by me, under the direction of the Navy Department, during the past year," I have to report progress as follows:

During the year, as in several former years, I have had access to all the meteorological journals kept at the various military posts by order of the Surgeon General, and to all the journals procured by the Smithsonian Institution, which are very numerous, and embrace a very wide extent of territory, which, united to the journals of my own correspondents, furnish the means, such as the world never possessed before, of generalizing the phenomena of storms, and educing laws which apply to their origin, the direction and velocity of their motion, in the United States; the direction and violence of the wind in different parts of the storm at the same time; the state of the barometer in the storm and around its borders; the causes which produce these phenomena; and the means of predicting, in all great storms of dangerous violence, their approach in time to prepare for them. How much of all this I have already done, and how much remains to be done, and with what prospect of success, you will judge by examining my previous reports to the department.

The plan which I adopted in those reports, in collating the meteorological journals, was, to exhibit to the eye, on skeleton maps of the United States, the various phenomena of the winds and rains and barometric fluctuations, by appropriate symbols, so that, by a glance, it might be seen where a storm was raging, how far it extended; in what direction, and with *what violence, the* wind blew in its borders, and beyond;

how the barometer stood within and beyond its borders; and how far, and in what direction, the centre of the storm had moved by the next day at the same hour. This plan I have not seen proper to change in the report now in progress for the department.

I have already finished collating the years 1849, 1850, and 1851, with the exception of the third quarter of 1849 and the third quarter of 1851. These quarters I shall finish by the end of the present year; and, if you so direct, the report for these three years can then be handed in to Congress. But I respectfully suggest that a report on this subject would be greatly increased in value by even a small increase of time contained in it; and I should be pleased if you would allow the report to be withheld from Congress till its second session, at which time the year 1852 would be embodied in it.

Whatever you direct me to do on this, shall be done to the best of my ability.

Very respectfully, your obedient servant,

JAMES P. ESPY.

Hon. J. C. DOBBIN.

D.

CAMBRIDGE, *October* 12, 1853.

SIR: I have the honor to submit to the department the following report of the state and progress of the work under my charge:

In January last I had the pleasure to transmit to Washington copies of the first volume of the "American Ephemeris and Nautical Almanac," and since then a cheap and reduced edition of the work has been published, in a form strictly suited to the limited wants of the navigator.

The sale of this edition, which amounted to one thousand copies only, has hardly yet begun, though it has been put into the market. Such is the rapidity of communication at present with all parts of the world, and so much has the length of even the longest voyages been diminished, partly by the improved models of vessels, but chiefly by essential modifications in the mode of navigating the great oceans, that it is not necessary now, as formerly, for vessels (with the exception of whaling ships) bound to distant regions to supply themselves with Nautical Almanacs several years in advance. On this account the demand of the mercantile seamen for the American Ephemeris will not be considerable until 1854. I expect, and hope, then to be obliged to strike off one or more extra editions, and to see our own work take the place of the British in the American market. I have included in my estimates for the fiscal year ending June 30, 1855, a provision for this increased expenditure if it should be required.

I have acted upon the authority granted by the department in its letter of May 17, and addressed a communication to the superintendent of the British Nautical Almanac, to the Bureau of Longitudes of Paris, and to the Astronomer Royal at Berlin, a copy of which has been sent to the department, offering the co-operation of this office in a general

plan of treatment of the asteroids. I have not yet received an answer from either of these sources. In the mean time, Mr. Schubert has been authorized, as the department is aware, to employ himself upon four of the asteroids, and Dr. Gould has undertaken the charge of two others.

I have already, in a separate communication, made known to the department my anxious desire to publish, from this office, a complete manual of navigation, which shall contain the rules and tables in habitual use at sea, but shall be entirely free from all collateral and extraneous matter, and thus be furnished to the navigator in the most convenient form for daily practice, and at the cheapest rate. The standard works of navigation, such as Bowditch's Navigator and Maury's book on navigation, are really works of instruction as well as of practical utility. They are designed to teach not only the elementary principles of the different branches of the mathematics, and their application to navigation and to surveying, but they conduct the student into the higher departments of nautical astronomy, and explain the theoretical solution of its most important problems. Besides this, they contain some rudimentary instructions in those questions of natural philosophy which are most interesting to seamen. These works constitute the basis of education to the intelligent navigator. But a manual of navigation, such as its name imports, and nothing more—that is, a compendious collection of the rules and tables necessary to find the latitude, longitude, and magnetic variation at sea, or, in other words, to determine the ship's place and her course—is very desirable on account of its great convenience, and would, I respectfully represent, be an appropriate gift from the navy to the mercantile marine. Every effort will, of course, be made to give to the methods in use increased facility and accuracy.

The most important theoretical work that has been accomplished during the past year, is the discussion of the greater part of the Greenwich observations of the sun, extending back into the middle of the last century, having for its aim a nicer determination of the value of the sun's diameter.

This important work has been done by Professor Winlock, and was published, the permission of the department having been already granted, in a recent number of the Astronomical Journal.

I have been prevented, by a want of means, from printing, this year, our new tables of the planets mercury and saturn. These tables ought, I take the liberty to say, to be published as soon as possible; and for this and other theoretical objects, I have asked for a special sum in this year's estimates.

The daily work of the office during the present year has been the preparation of the second volume of the American Ephemeris and Nautical Almanac—the volume for 1856. The first volume—that for 1855—contained 552 pages of tables, explanations, &c., of which 78 formed an appendix.

The number of pages of the appendix of the forthcoming volume will be less. But the contents of the body of the work will be increased by the addition of some new pages to the ephemeris of the sun. Of about 450 pages, *composing the* body of the work, 362 have been com-

puted, and the remaining 88 pages are in a greater or less degree of forwardness. It is my present expectation to have all the computations concluded by the 15th of November. 307 pages of the volume, including the appendix, have been printed. The printing of the remaining pages will be executed with all the despatch consistent with the careful revision of the plates; and the volume will be published in time to meet the wants of the navigating community.

The following statement exhibits the manner in which the assistants generally are to be engaged during the ensuing year, provided no important changes occur:

Mr. J. D. Runkle, Mr. Kerr, Mr. Wright, Mr. Bradford, Mr. E. J. Loomis, and Mr. C. A. Runkle, will be employed on the moon; Professor Winlock on the sun; Professor Hedrick on mars, uranus, and the moon-culminating stars; Professor Kendall on jupiter and neptune; Miss Mitchell on venus; Mr. Sprague on the fixed stars; Messrs. Downs and N. Loomis on the occultations; Mr. Schubert on certain asteroids; and Messrs. Oliver and Eastwood on miscellaneous work. Professor Peirce, besides taking charge of saturn, will give a general supervision to the calculations, make proof computations, and supply theoretical instruction when required.

In conclusion, I have the honor to inform the department that the general state and progress of the work under my charge is satisfactory.

Very respectfully, your obedient servant,

CHARLES HENRY DAVIS,

Lieutenant, Superintendent Nautical Almanac.

Hon. JAMES C. DOBBIN,

Secretary of the Navy, Washington, D. C.

E.

BALTIMORE, *September* 14, 1853.

SIR: I have the honor to acknowledge your letter of the 12th instant, which has just come to hand; and at once to prepare and forward the report for which it calls, and which, in accordance with your directions, as well as the actual state of the research itself, I will endeavor to make as terse as possible.

This research into the method of putting up alimentary substances to be used as provisions in the navy of the United States, the appropriation for which was made originally at the call of your predecessor, Mr. Graham, had for its motives both advantage and economy: first, in respect to the health and comfort of the officers and crews; and secondly, in respect to the considerable annual loss which has been found to accrue upon the necessary abandonment of provisions that had become deteriorated and spoiled.

Such deterioration may, and it is to be presumed generally does, occur consistently with perfect good faith on the part of the contractors furnishing the supplies, and of the inspectors receiving them. And by *good faith*, here, is meant not only the absence of fraud and intentional deceit, but also the exercise of such reasonable or, at least, ordinary care in the selection of the materials, their preparation, and their ex-

amination, as the government, in its capacities of both purchaser and employer, has a right to expect from its venders and agents.

But the causes which tend to produce decompositions and deteriorations in artificially preserved provisions, are themselves obscure; are sometimes gradual and very slow in their effects, and require, even, occasionally, some external circumstances (for examples, heat and moisture, &c.) to stimulate, and, as it were, start their action. Thus it may very well happen that a lot of meat will have been packed with antiseptics which the packer has procured as pure, and which he may have used before with satisfactory results; and yet, after all, from but slight variations in composition or adulterations of the antiseptic itself, from sudden changes of temperature, or of dryness in the atmosphere of the place where the packages may have been stored or carried, or even from lapse of time in a prolonged cruise, scope will be afforded for changes and decompositions that have their issue in destroying the alimentive properties of the whole lot.

When this issue takes place, the loss in money falls, of course, upon the government; both to the extent of the amount already paid, and also to the additional extent of the sum, sometimes greatly larger, which has to be paid for replacement of the supplies abandoned.

Also, it is to be considered, in accordance with what has been said, that the gradations of deterioration are so minute as in their beginnings to be imperceptible to the senses of smell or taste; and that from this circumstance, as well as sometimes from an unwillingness to incur the expenses already spoken of, until the necessity has become emphatic, or from the absolute impossibility at sea of procuring fresh supplies, provisions are served out and consumed with unwholesome effects, sometimes immediately apparent, sometimes only traceable long after, in chronic diseases that embitter and shorten life.

It is to be considered, too, that packed provisions (salted meat, for example) are, in their best estate, but imperfect succedanea as aliment; the operation of the antiseptics themselves which have to be employed, is to drive out the nutritious natural juice and replace it from their own solutions; and thus, not only are the consumers of salt meat deprived of a part of the nutriment derivable originally from it in its fresh state, but their own bodily circulation becomes surcharged with mineral salts, which, for perfect nutrition, are required but in small proportions. But this point is so plainly proved, and so commonly known in the scrofulous disorders to which sailors on long cruises are liable, that it need not be further spoken of.

All these considerations, then—a due regard to the health of the persons employed, and their fitness for labor while they are actually in service; the probabilities of their health afterwards, which involves the wholesomeness of the occupation, and of course the promptness with which a call for seamen is at any time answered; and the certainty of inconvenience and direct expense for lost and replaced supplies—formed the motive for the research with which I have been charged.

The apparent uncertainties and doubtfulness of issue, referred to a few paragraphs back, so far from weakening the motive, served only to stimulate the inquiry. Although the elements tending to produce deterioration *may be so minute* or so combined as to elude ordinary

inspection, and their modes of operation obscure and as yet undetermined, and the circumstances modifying their action variable and sometimes uncontrollable, yet, of the reality of the phenomena and the occurrences there can be no doubt. Now, there is no effect without a cause; and few physical causes, or, more correctly, modes of action, are so hidden as not to reveal themselves to industrious observation and to experiment guided by a sound theory. It was under such impressions that I committed myself to the research, in the hope, which has only gone on to strengthen itself, that useful results could be arrived at, and practical rules deduced, of value far outweighing the trouble and cost of obtaining them.

The aim to which I was instructed to look, in the investigation, by your predecessor, Mr. Kennedy, under whom the work was commenced, covered, it was supposed, the whole ground necessary to be occupied; and if it did not centre in the solution of the problem how to preserve animal food under all circumstances, and during periods indefinitely long, it would at least strike at the root of the difficulty, show the limitations of the problem, and indicate the conditions essential to success, and the circumstances under which only a failure was to be looked for. I was authorized to make a physical and chemical investigation of all those kinds of meat, in the fresh state, used for navy rations; of the antiseptic ingredients found in commerce, and used or obtainable for its preparation; and of the articles themselves as prepared and furnished for navy use. And this investigation might be both analytic and synthetic: that is, 1. The determination of the elements from their known combinations; and, 2. The observation of the combinations of known elements.

Nor, with the scope of the instructions, did this inquiry limit itself to animal fibre only, but included also the vegetable substances used as provision, to whose investigation the same modes of research were applicable. A part of this last, so far as cereal grains are concerned, has been, I am informed, either wholly or to some extent executed for another department of the government—that is, the Patent Office—under the Secretariate of the Interior. Of course, what has been done there will not require to be repeated.

Another main branch of inquiry more especially connected with this last, but belonging generally to the category of the most wholesome diet, and growing out of the admitted ill effects of exclusive salted food, was directed to be into the methods of preparing extracts or condensations of alimentary substances both vegetable and animal.

The largest constituent of all articles used as food, in their natural state, is water; a substance which, if not neutral in the process of digestion, is in general disposable to be added as wanted. If this could be withdrawn from its combination in the articles in question, it is manifest that considerable bulk and weight could be dispensed with. Provisions could then be stored better and carried more conveniently; and not only so, but it is probable, besides, that the presence of water in combination facilitates the very changes and deteriorations which are *so* important to be avoided.

Again, in almost all articles of food as presented in nature, there are *one or two* elements more efficacious for nutrition than all the others;

and by obtaining these essences, so to speak, isolated, we virtually obtain all the advantages of the bulkier and perhaps more readily deteriorated article.

If these expressions and condensations, then, can be satisfactorily effected, a great deal will be accomplished towards the portability and convenience of aliment; and as regards the preparation of vegetables in this respect, much will be contributed to counteract the evil dietetic effect of salted animal food already spoken of.

This topic has already engaged the attention of one of the bureaus of the Navy Department; but it was supposed that, without interference with the proper discretion of that bureau, advantage might be taken of the present research towards a common and beneficent end.

But if the prosecution of this research ended only in the determination of the particulars that have been mentioned, assuming them to have been obtained with perfect accuracy for the individual articles experimented on, it is manifest that the result would still be very incomplete; and even when we go further and furnish a code of recipes, articles of food put up according to which will keep with unfailing certainty, there is still something to be desired, until we can also point out the test by which the consumer can know that the recipe has been conformed to.

Such an indication as this is the final aim, viz: the providing of means, different of course for the different articles, by which their degree of purity can be ascertained, without resort to a troublesome and costly process, such as chemical analysis, and with sufficient approximation for practical purposes. When this is achieved, when the packer of provisions can ascertain for himself, without being misguided by the price or name of the article, of its intrinsic purity and fitness as an antiseptic, and when the government inspector is further enabled independently to determine with tolerable precision whether such and such antiseptics have or have not been used, the object of this research will have been attained. I dare not promise yet to attain so much; but I consider it as attainable, perhaps only by greater skill and ingenuity than my own, and I, of course, refer to it in my report such as this.

The plan to be followed in the researches has not been defined in the instructions I received, and had necessarily to be left very much to the discretion of the person undertaking it. Before doing anything, I naturally endeavored to form a clear idea of what was to be done, and figured to myself a programme of the steps to be taken. It is easy to perceive that such a programme cannot be inflexible; various modifications will suggest themselves as the work progresses and becomes, it is fair to presume, better and more thoroughly comprehended; and even when it is completed, and I finally discharge myself of it, I expect to find more than one point that could have been better treated.

The research, then, divides itself into two great branches:

1. The preservation of animal fibre or meat; and,

2. The preparation of animal and vegetable extracts.

These are in the mode of examination nearly independent of one another; and my principal interest was to commence with the first, leaving the other to a subsequent stage, which will hardly be reached under a year from *this time*.

The preservation in question is ordinarily effected by application of mineral or vegetable salts, and by pyroligneous products. Under the former come common salts, saltpetres, and sugars; under the latter the direct action of the smoke, as well as appliance of some of the products of distillation from wood. And these latter appear to be essential to the idea of *curing* meat—i. e. remedying its tendency to decomposition. Meat only salted, or sugared, or both, is more properly to be considered as *pickled*. It is not necessary here to speak in detail, even if I were able, of the precise mode in which these appliances effect their object. It may be taken in general that when salts are rubbed into the moist meat, a sort of exosmose happens, the salts are absorbed, and equivalent portions of the putrescible constituents of the meat are expelled or form coagulated and stable compounds. The action of pyroligneous matters is similar; and if to this be added an increase of temperature, such as obtains in a smoke-house, or where fresh meat is jerked, the expulsion and coagulation is still more thoroughly effected, and the meat may properly be said to be cured. But in pickled meat, especially, the whole of the putrescible matter is by no means got rid of or converted, and it remains there to act as a ferment and promote decomposition. Of course, in proportion as the salts used are deliquescent—i. e. absorbent of moisture from the atmosphere—they strengthen all the conditions requisite for oxidation and fermentation, and in their measure tend to hasten decay. Such salts are, therefore, clearly to be avoided.

This method of curing is, as has been said, the ordinary one. But there is another way to preserve meat, which forms in fact the connecting step between the first and second branches of this research, and which consists in a partial cooking of the meat, or at least in its exposure to an elevated temperature, and then in protecting it by tight enclosures from contact with the air. In this way the bulk and weight of the provisions may be considerably reduced, and the action of the remaining ferments almost or quite neutralized.

But to return to the ordinary methods. It is obvious that for their elucidation a knowledge of the constituent elements that are to be placed in contact is primarily necessary for any systematic or successful study of the changes and recompositions that occur. A careful qualitative and quantitative analysis, then, of all the antiseptics used, is requisite in the first place. To this must be added the observation of their behavior as to change of volume or density, action upon light, and influence on heat during solution; for these half-mechanical relations, whose dependencies upon mere chemical constitution are as yet but indistinctly defined, cannot but contribute to modify, perhaps materially, their ultimate action.

Next, it will be proper to place the constituent elements of the said salts so ascertained, isolated as well as certain definite combinations of them, in contact with portions of meat cut from the same piece; subjecting them, so in contact, to varying degrees of temperature and pressure, so as to observe and study thoroughly the changes which are produced. Such a study, judiciously pursued, affords the key to the *whole process*, and enables us either to construct an artificial salt, (as

is most likely to be required,) or to select among the natural ones that which will answer the conditions the most effectually.

It is admitted that examinations and comparisons like these are excessively tedious, and require both time and patience; but I confess that, after reflection, I am unable to devise any other plan that with less labor will present equally comprehensive and reliable results.

The progress that has been made is, I believe, as rapid as consistent with care and accuracy. Owing to circumstances not under my control, the work could not be commenced until a few days before the close of last December. A suitable place was then procured, and the articles for examination begun to be collected. For the analyses I procured the services of Dr. Campbell Morfit, a chemist of high and still rising reputation, whose methods and means appear to leave very little in this respect to be desired. Their details I defer until a future report.

Up to this date, twenty-seven varieties of common salt, (chloride of sodium,) and thirteen varieties of saltpetre, (nitrate of potassa,) have been analyzed, and their constituents determined. Progress has also been made in the physical examinations spoken of just now; and I think I can safely promise, in their conclusion, to furnish a reliable halometer, or instrument by which the amount in pure chloride of sodium, assumed as the valuable ingredient, can be readily ascertained. Another instrument, of different form and character, can, I believe, be devised for similar ascertainment of the effective ingredient of saltpetres.

Upon the results that have been obtained, I think myself warranted in naming, among the common salts, the so-called solar salt—made at Key West, in the State of Florida—as the freest from impure associations; and next in rank to it, that which comes from San Martin, one of the leeward West India islands, and belonging to Holland; and among the saltpetres, Du Pont's granulated No. 2, which is nitrate of potassa almost absolutely pure; and next to it, Du Pont's chrystalized, whose defect is association with water in small proportion, and in still smaller proportion with potassium as chloride.

How far this statement is to be taken in the light of a recommendation that the government should stipulate hereafter for the exclusive use, by contractors, of those articles that have been designated, rests in the discretion of the department. I should have no hesitation in requiring the stipulation were I the consumer myself. At the same time, it is barely possible that the synthetic researches to be made will raise some of the other salts on the lists to a nearer equality with these.

Why there should be such a difference between the salt of San Martin and that of other West India islands—as, for instance, between the former and that from Anguila, a closely neighboring isle, where there is a difference in content of chloride of sodium of three per cent., which is replaced chiefly by water; but also extensively by sulphate of lime, (gypsum,) and sulphate of soda (Glauber's salt)—is an interesting topic of inquiry, upon which, in a future report, I hope to present some particulars worthy of consideration. As to the oversight—to say the least of it—by which the so-called Liverpool salts are allowed to become more impure as they are carried to higher grades of

refinement above the native rock-salt, from which they must have been in part derived, is a point upon which there will be also interest in dwelling. I am not yet informed whether these impurities are traceable to the salt springs, whose brine is evaporated, or are rather owing to the water employed for lixiviation.

To return, however, to the actual state of progress: the sugars of commerce, to the number of fifteen, have been collected, and are now in hand for a thorough examination as to both their inorganic and organic constituents. This examination must of necessity be prolonged and delicate; but I expect results from it that will be important beyond the scope of this special inquiry.

The synthetic experiments and combinations spoken of before could not have been undertaken, in any event, until late in the past spring. The shortly-coming heats of summer afforded a period so unfavorable to them that they have been postponed until the temperature should become more uniform and suitable. They will be soon commenced; and, before the next summer, I expect to have them concluded, and their results worked out.

The succeeding topics of research appear to have been already sufficiently indicated to spare their being dwelt upon in greater detail now. And I have therefore, finally, only to express the hope, that what has been said upon the motive, aim, plan, and progress of the work, will be, sir, to your satisfaction, and enough to demonstrate the importance of the subject, as well as the fidelity and reasonable intelligence with which it is being prosecuted.

I have the honor, sir, to offer assurances of profound respect,

J. H. ALEXANDER.

Hon. J. C. DOBBIN,
Secretary of the Navy.

F.

UNITED STATES NAVAL ACADEMY,
Annapolis, Md., June 15, 1853.

SIR: In forwarding to the department the accompanying report from the superintendent, recommending to the notice of the board of examiners various subjects connected with the academy, the board respectfully report, that they have carefully considered the suggestions of the superintendent, and are satisfied that the changes and additions proposed will greatly promote the growth and efficiency of the institution.

The board regard the instruction that is given on board the practice ship as of the greatest importance, in preparing the acting midshipmen for entering upon the active duties of their profession; and it is, therefore, of the first importance that the ship should be of adequate dimensions to accommodate, comfortably, all the classes that are to be embarked; and, also, that she should be fitted with the auxiliary steam power recommended by the superintendent. This is deemed to be so important a part of the system of instruction pursued at the academy, that any defect of means for carrying it out would, in the opinion of

the board, defeat one of the prime objects had in view in its establishment.

The suggestions relating to a machine-shop upon a limited scale, and a guard-house for the more effectual punishment of offenders, have the approval of the board; and the whole report is respectfully commended to the consideration of the department.

Respectfully, your obedient servant,

C. S. McCAULEY,
President of the Board.

Hon. J. C. DOBBIN,
Secretary of the Navy, Washington.

UNITED STATES NAVAL ACADEMY,
Annapolis, Md., June 14, 1853.

To the Board of Examiners:

I beg leave to call your attention to the following matters connected with the academy, and which, in my judgment, deserve to be attended to:

1. The "practice ship," as at present fitted, cannot accommodate more than fifty students, with the necessary officers and men. There will be this year about fifty students embarked on board; next year there will be about sixty; and in all succeeding years I suppose the number will be about seventy-five—this is a greater number than can be accommodated on board the "Preble." As it is thus apparent that a larger ship will be necessary for the practical instruction of the students in seamanship, &c., I would respectfully suggest the propriety of a frigate-built ship being built or provided for a "practice ship," and that this ship should have auxiliary steam power. In a ship of this kind the students could be instructed, during their cruises, both in seamanship, navigation, gunnery, and the management of steamships. I consider this a matter of great importance, as every year steam is more and more applied to sea-going vessels, and particularly to men-of-war.

2 To instruct the students fully in the construction and management of the steam-engine, I deem it highly important that there should be a machine-shop at the academy, where the students could see all the parts of the engine, the mode of making them, and the adaptation of one part to another in the complete engine, as seen in their manufacture in a machine-shop. With such a shop, and the necessary tools, the instructor would be able to instruct the students more fully in the use and management of the steam-engine than it is possible to do with models only.

3. A guard-house. From the youth of many of the students, I am satisfied that some other mode of punishment than *demerit marks* is required to control them effectually; I have come to the conclusion that confinement is the only means we can resort to likely to be effectual; I therefore beg to call your attention to the want of a guard-house for this purpose. I believe there are many boys who require some more stringent mode of punishment than any we can now adopt, to produce the desired effect; for such boys moral suasion will not an-

swer; but when aided by such punishments as confinement, loss of indulgences, &c., many would, I believe, be brought more fully to see their duty, and constrained to perform it too, than when operated upon only by moral motives. It is not in place to enter into an argument to support my views of the case; besides, I consider it unnecessary, in addressing a board of navy officers whose lives have been devoted to the government of the *personnel* of the navy.

4. There are several other matters connected with the government of the academy with which I am not satisfied; but, as yet, I am not prepared to recommend any changes. Amongst these is the mode of supplying the clothing and other wants to the students, their mess expenses, and a more efficient police. With a sincere desire to promote the usefulness of the academy, I cannot but fear it does not yet meet the expectations of the navy, or the friends of a higher order of instruction in it than has heretofore existed.

The board will, I trust, be satisfied of the desire of the officers of this institution to see it come up fully to the wants of the navy, and that they will at all times be ready to carry out any recommendation for its improvement.

Respectfully submitted.

C. K. STRIBLING,
Superintendent.

G.

UNITED STATES NAVAL ACADEMY,
Annapolis, Md., June 17, 1853.

SIR: Since the report which the board of examiners had the honor to address to you on the 10th instant, they have proceeded to carry out the latter part of your instructions of the first of June, and now submit their final report upon the examination of the several classes of acting midshipmen, and of the police, discipline, and general management of the institution.

The examination embraced the second, third and fourth classes, and a small number of acting midshipmen who have been appointed at irregular dates since the first of January of the present year.

The present course of study at the academy, embracing a period of four years, was adopted in the year 1851, and put in operation on the first of October of that year; the board, therefore, has not had an opportunity of witnessing the examination of a class which has had the benefit of a full course of instruction; but, judging from the proficiency exhibited by the members of the oldest classes which were examined before them, they have no hesitation in expressing the opinion, that in a few years the institution will annually furnish to the country, that has so liberally sustained and fostered it, a corps of officers well prepared to uphold her interests and sustain her honor in times of war, and who, during the periods of peace that we may be permitted to enjoy, will contribute largely to her growing greatness, by additions and improvements to the arts and sciences.

The benefits that the country will derive from the education given

er young officers at this institution, will not be apparent until the em has been several years in operation; but the board feel assured, if the present plan of instruction is continued, with such changes experience may from time to time suggest, the navy will, in the se of time, be able to furnish officers capable of performing any , whether it be practical or scientific.

'he attention of the board has been called to a practice that existed er your predecessors in office, of reappointing acting midshipmen were dropped from the list in accordance with regulations. It is eved that the department has not been made aware of the evil ef- s of this practice, and the board, acting under this impression, will the liberty of directing your attention to them.

n the first place, the board are informed that in almost every instance re an acting midshipman has been reported "deficient," and from e favorable circumstance connected with his case has been recom- ided for further trial, the effect of the practice of reappointing in cases is to encourage idleness in those who are not confident of ing their examination, by creating the impression that the worst alty that can attach to such default will be to descend to a lower s, where the task of study will not be so great.

t the kindred institution at West Point, experience has shown that judgment of the academic board may be regarded as a safe guide his point, and the practice of reappointing those who have been d "deficient," has been entirely discontinued for many years.

also appears to the board to be very important that the regulations ch the department has adopted with regard to the time at which lidates are required to present themselves for admission into the lemy, should be steadfastly adhered to; otherwise, the classes will multiplied beyond the capacities of the institution, and the ap- tees of the same year will have very unequal academic advantages.

'he board have carefully examined the system of police and disci- e, and the general management of the institution, and have found h to approve and nothing to condemn. These, as well as the depart- ts of instruction, and all other duties of the institution, seem to have n intrusted to safe and competent hands; and the system of ac- ntability of all the subordinate departments to the superintendent, been well-ordered and preserved.

'he board embraced in their duties a full inspection of all the public s, dormitories, apparatus in the departments of mathematics, philoso- and gunnery, and of the practice ship, (upon which a special re- has been made,) and take pleasure in expressing a general appro- of their condition and adaptation to the wants of the institution.

Vith a continuance for a few years of the liberal provisions that gress has made for the academy, it will become all that the navy our country can desire.

'he board cannot close their report without bearing willing testimo- o the many evidences that the institution presents of the zeal and lity with which the superintendent, and those who act under him, e performed their duties.

Having now completed the duties required by your instructions, the board will adjourn *sine die*.

I have the honor to be, very respectfully, your obedient servant,

C. W. McCAULEY,
President of the Board.

Hon. J. C. DOBBIN,
Secretary of the Navy, Washington.

H.

UNITED STATES NAVAL ACADEMY,
Annapolis, Md., October 15, 1853.

SIR: I transmit herewith a copy of the report of Commander Craven of the cruise of the practice ship. This report has been delayed in consequence of the absence of Commander Craven in the "Preble."

The acting midshipmen who were embarked on board the "practice ship" have returned in good health, and have entered upon their duties at the academy with cheerfulness and zeal.

The report of Commander Craven is most satisfactory. The exercises of the students appear to have been conducted with zeal and intelligence on the part of Commander Craven and his assistants, and attended with satisfactory results. I would call the particular attention of the department to the target practice *at sea;* such results could not be surpassed by the most experienced seamen.

As this is the third and *last* report of the practice ship to be made while I have the honor to hold my present situation, I feel constrained to do more than express my approbation of this part of the system adopted for the improvement of the students of the academy.

The system adopted for the education of the acting midshipmen embraces both theory and practice to an extent which, I believe, does not require any change, except perhaps that a more thorough course of instruction, both theoretical and practical, in steam should be pursued. When the workshop at the academy, and the addition of steam power to the practice ship, are made, (and which have been approved by the department,) the means will be afforded to accomplish this. The application of steam to men-of-war as an auxiliary power, requires that this important branch should be thoroughly taught at the academy.

If this should be done, the students, when employed in regular service, (after having completed their course here,) will possess a knowledge of steam and the management of steam-vessels which will render them competent, under ordinary circumstances, to perform their duties with much greater satisfaction than any officers who have not had such advantages can possibly do.

The system now in operation will, if pursued faithfully, I feel assured, produce results calculated to improve and elevate the character of officers of the navy, and, of course, increase its efficiency. With these views, I cannot but hope that the system of education now in *operation* will be allowed to have a fair trial. Sufficient time has not *yet elapsed* since its commencement to test its merits or demerits.

Until this is done, changes should not, I think, be made without a careful examination of the benefits likely to result from them.

I am, very respectfully, your obedient servant,

C. K. STRIBLING, *Superintendent.*

Hon. J. C. DOBBIN, *Secretary of the Navy.*

U. S. PRACTICE-SHIP PREBLE,
Annapolis, October 9, 1853.

SIR: In obedience to your orders of June 21st, the practice-ship Preble sailed from Annapolis on the 23d day of June, but owing to the delay in completing her crew and provisions from Norfolk, she was detained at Hampton Roads until the last day of the month, when she sailed upon her cruise for the practical instruction of the acting midshipmen. The interval of our detention was, however, advantageously employed in the preliminary instructions of the young gentlemen; and from the day of our departure to the present time no opportunity has been lost of carrying out the course of instructions prescribed by the chief of the Bureau of Ordnance and Hydrography, in his orders issued in July, 1851, for the government of the practice ship.

As in the two former cruises of this vessel, the acting midshipmen have been fully and carefully taught in the art of knotting, splicing, reefing, furling, making and taking in sail, heaving the lead, &c., &c.

That they might obtain a more thorough knowledge of rigging, they were divided into four parts or classes—each of which was required to take a topsail yard and rig it completely, fitting jackstays, foot-ropes, tye, quarter and brace-blocks, parrel, lifts, &c., without other assistance than the supervision of Mr. Marcy or myself; and, whenever the weather was such as to prevent other exercises, they were required to make drawings of the various yards, masts, and sails, in detached parts, showing, in detail, the different method of fitting the standing and serving the running rigging. The drawings being completed, each pupil was required to explain fully the nature and use of every rope, and to show the different methods of making and taking in sail. These two methods, the rigging of yards and the making of drawings, combined with oral examinations, I found to work most admirably, for they served to fix very thoroughly upon their minds the proper arrangement of the rigging of a ship and the management of the sails.

The young gentlemen of the first class were required in the day-time to take charge of the deck; so that every evolution of tacking or wearing, box-hauling and chapelling, making and taking in sail, being performed under their own directions, necessarily added much to their practical experience. Since our arrival in the Chesapeake no opportunity has been lost in putting in practice their theoretical knowledge of the manœuvres of getting under way and bringing ship to anchor with contrary winds and tides, avoiding dangers of preparing for and anchoring in gales of wind, securing disabled spars, &c.

They have also made great advancements in navigation under the instruction of Mr. Buckner; and during the homeward passage each one of this class has, in regular succession for a week at a time, performed all the duties in *navigation* appertaining to the sailing-master; laying

before me daily the results of their observations for ascertaining the ship's latitude by the various methods of single, double, and meridian altitudes of the sun, moon, or stars; the longitude by chronometer or lunar observations, the variation, &c.

Whenever the weather permitted it, the young gentlemen of both classes were fully drilled at the battery in preparing ship for action, loading and firing, mounting and dismounting, and transporting guns, &c. The target practice at sea has been most admirable, and I believe it fully warrants the assertion, that there was scarcely a shot fired that would not have hulled a frigate at the distance of a mile. Upon one occasion, so accurate was the firing, that of fifteen shots expended, the greatest deviation was not more than three feet to the left of the centre of the target, ten were line shots, and two were directly through the centre. The target was at this time from 800 to 1,100 yards distant, the ship rolling about two and a half streaks, and the swell of the sea nearly if not quite four feet.

We visited, during the cruise, the ports of Horta, in the island of Fayal; Corunna, on the north coast of Spain; and Funchal, in the island of Madeira. At Corunna we were received with the greatest possible kindness and attention by the governor general of the province of Galicia, and the civil and military authorities of the town.

We received the most pressing invitation to visit their great naval arsenal at Ferrol; and although my instructions from the Navy Department prevented my touching at any ports other than those therein designated, yet in view of the advantages that the young gentlemen would have, and believing that the department and yourself would, under the circumstances, approve of my doing so, I so far deviated from my orders as to anchor the ship outside of the harbor of Ferrol. I then sent the young gentlemen in, under the charge of Lieutenant Marcy, to visit the arsenal.

The great age of the establishment, and being one of the most extensive in the world, rendered the visit not only gratifying but highly instructive to all.

We found everything in great activity within its walls, and were informed that over three thousand artisans and laborers were then at work.

Owing to the want of time and the reputed sickliness of the island of Martinique, I did not touch there. We reached Hampton Roads on our return the 17th of September, and after filling up with water and provisions from Norfolk, we proceeded to the Chesapeake. The intervening time has been spent in the bay in practical exercises, as detailed above.

As heretofore, it gives me great pleasure to acknowledge my indebtedness to Lieutenants Tilghman and Marcy, and acting master Buckner, for their very zealous and efficient aid during this most interesting cruise.

Very respectfully, your obedient servant,

THOMAS T. CRAVEN.
Commandant of Midshipmen.

To Capt. C. K. STRIBLING,
Superintendent United States Naval Academy, Annapolis, Md.

I.

BUREAU OF YARDS AND DOCKS, *October* 19, 1853.

SIR: In the first section of the act making appropriations for the naval service, approved 3d March, 1853, the Secretary of the Navy is directed to sell all the land at the navy yard, Brooklyn, lying between the west side of Vanderbilt avenue and the hospital grounds; provided jurisdiction shall be obtained from the State of New York over all the remaining lands connected with the navy yard and belonging to the United States, and the land not to be sold for less than the cost, with interest, assessments, and charges.

Soon after the State granted jurisdiction, agreeably to your directions, I directed a survey to be made of the grounds in question, defining the boundary lines, (which the deed did not,) and estimating the quantity of land, and its cost to the United States. That survey has been made, and the report of the commission which made it, with a map of the premises, has just been received, which I have the honor to submit herewith. By the map, you will see that some of the dividing lines have been materially changed from where they were before supposed to run, and which covers some seven acres more of the hospital grounds to be sold than was named in the act of Congress. The data, therefore, upon which the minimum price of the land was to be ascertained under said act, if based upon the recent survey, will reduce the price at which it could be sold somewhat below the estimated cost of the United States; because, by the late survey, it has been ascertained that the Griffing purchase contains more land than was estimated by the government when it was purchased; and, consequently, the *pro rata* value of that, which under the law is directed to be sold, is reduced to below its actual cost. There is also another and important point for consideration, viz: the great inconvenience to the parties—the coterminous proprietors—which would result from a sale upon the line indicated by the map. I do not apprehend that Congress intended so to divide these grounds, and cut them up into such shapes as would render parts of them almost valueless to any owner, and subject other parts of the hospital grounds to trespass and depredation.

Now, as I believe Congress would not direct a sale to be made by lines, as shown on the plan herewith submitted, which would injuriously affect the owners and occupants, and decrease the value of the lands, and as no injury can possibly accrue to the United States by postponing the sale a short time, and submitting the matter again to Congress for consideration, I respectfully recommend that the facts be reported to Congress, and, if no further action be taken by that body, that then the sale be made agreeably to the provisions of the act before cited, and the minimum price for the land to be sold be fixed *pro rata* upon the quantity of land contained in the Griffing purchase, as indicated by the map of the commission, which I also recommend should be sent to Congress.

I have the honor to be, with great respect, your obedient servant,

JOS. SMITH.

Hon. J. C. DOBBIN, *Secretary of the Navy.*

K.

WASHINGTON CITY, D. C.,
December 16, 1853.

SIR: I have the honor to report that, in obedience to your order of the 19th ult., I proceeded to Key West by the first conveyance, and on my arrival immediately examined the custom-house lot indicated by you as being probably the best site for a coal depot; also, two lots contiguous to the United States marine hospital, which struck me as being very suitable to the purpose in view.

I made these examinations with the Hon. Mr. Mallory and Captain Scarritt, of the engineers, and am satisfied, from the information derived from these gentlemen, as well as from my own observations, that it will be decidedly more advantageous to the government to purchase the property contiguous to the hospital for a coal depot than to use the custom-house lot for that purpose.

The following considerations have led me to this conclusion, viz:

1. The custom-house lot is of very limited extent, having but about 400 feet water-front, and it would be impossible hereafter to extend the depot, if established there, without destroying the approaches to the custom-house. I found, also, that the citizens of the place are averse to the establishment of an extensive coal depot so near the most populous part of the city, as the rates of fire insurance would be thereby much increased. The buildings are generally frame, and there is always more or less danger of the spontaneous combustion of bituminous coal. A large quantity, which was deposited here for the army during the Mexican war, was consumed in this way, endangering a portion of the city very materially.

2. Between the custom-house lot and the property of which the purchase is suggested, the lots of Messrs. Williams and Moreno lie. That of Williams, which is next the custom-house, is a small triangular piece of ground, without water-front, and containing but about 5,000 square feet, and cannot be purchased except at a most extravagant price, if at all. Moreover, between it and the custom-house is a street of fifty feet width, running to the water, which, I am informed, the corporation would probably refuse to close. Next to Williams lies the Moreno property, which cannot be made available for government purposes, in connexion with the custom-house lot, unless the property of Williams is obtained, and the street referred to closed, which appears to be out of the question.

3. If the custom-house lot is used for the depot, it can only be approached for the conveyance of materials, &c., through the private lots adjoining, or the public streets; whereas, if the ground referred to is purchased, the government will be in possession of a compact property bounded by a public street in the rear, the property of Moreno on the north, and the hospital lands on the south, with an uninterrupted water-front of 955 feet. It would have the right of way to the extensive stone quarries which lie upon the lands belonging to the War Department, and between which and the site of the depot a cheap rail-track could be constructed, by means of which materials for building or

filling could be transported. A track sufficient for such a purpose could be laid of joist (no grading being needed) for three hundred dollars. This expedient for the transportation of stone has been resorted to on several occasions in Key West by individuals, and found to be very efficient and economical.

4th. If the depot is established upon the custom-house lot, the value of all the property lying between it and the hospital will be at once excessively enhanced in the estimation of the present holders of it, and it is quite certain that none of it could hereafter be obtained for naval purposes except at very high rates.

Being convinced, therefore, that it is highly expedient for the department to purchase in the outset a quantity of ground sufficient for its probable future as well as present wants, I respectfully recommend the purchase of the lots contiguous to the hospital, which can be had, as will be perceived by the accompanying proposition, for the sum of ten thousand four hundred dollars, ($10,400,) with the understanding that the streets intersecting it will be ceded to the government. This offer has been obtained through the medium of Mr. Mallory, who assures me that the price named is very moderate.

The lots are abundantly deep for a coal depot, and, as I should suppose, for any other buildings which the department could ever desire to erect there. Should it be desirable, however, to increase the depth, it can readily be done by filling out. This property being in possession of the government, I would suggest that a coal depot be constructed at the point indicated in the accompanying sketch, and upon the plan described in your instructions. For masonry, I am satisfied that the stone of the island covered with cement will be found an excellent material; and for the wharf, Captain Scarritt, the engineer who is appointed to superintend the construction of the depot, recommends palmetto piles, instead of pine piles coppered.

It will be perceived by his estimate, which I beg to enclose herewith, that the balance of the appropriation, after purchasing the site recommended, say nine thousand six hundred dollars, ($9,600,) will be sufficient for the completion of the wharf and abutment. I beg to add, Captain Scarritt has had much experience in the construction of wharves at Key West, and that lighters, pile-drivers, diving-bell, and other facilities for such constructions, belonging to the engineer department, are at his command upon the spot.

I have the honor to forward the accompanying sketch, by which the descriptions which I have given will be better understood.

I have the honor to be, most respectfully, your obedient servant,

GEORGE S. BLAKE,
Commander U. S. Navy.

Hon. J. C. DOBBIN,
Secretary of the Navy, Washington City, D. C.

No. 1.

Estimate of the sums required for the support of the office of the Secretary of the Navy for the fiscal year ending June 30, 1855.

For salary of the Secretary of the Navy, per act of March 3, 1853; sec. 4, pamphlet edition of laws, p. 212	$8,000
For salary of the chief clerk, per act of March 3, 1853; pamphlet edition of laws, sec. 3, p. 211	2,200
For salary of one fourth-class clerk, per act of March 3, 1853; pamphlet edition of laws, sec. 3, p. 210	1,800
For salary of one fourth-class clerk as disbursing clerk, per act of March 3, 1853; pamphlet edition of laws, sec. 3, p. 211	200
For salaries of six third-class clerks, per act of March 3, 1853; pamphlet edition of laws, sec. 3, p. 210	9,000
For salaries of four second-class clerks, per act of March 3, 1853; pamphlet edition of laws, sec. 3, p. 210	4,800
For salary of messenger, per acts of April 30, 1822, sec. 1, Stat. at Large, vol. 3, p. 671; and of March 3, 1851, sec. 1, Stat. at Large, vol. 9, p. 605	700
For salary of assistant messenger, per act of April 30, 1822, sec. 1, Stat. at Large, vol. 3, p. 671	400
Total for salaries for fiscal year 1854–'55	27,100
Appropriated for fiscal year 1853–'54	$27,100

CONTINGENT EXPENSES.

To blank books, binding, stationery, labor, newspapers, periodicals, and miscellaneous items	2,840
Appropriated for fiscal year 1853–'54	$2,840
Total estimate for fiscal year 1854–'55	29,940
Whole amount appropriated for fiscal year 1853–'54	$29,940

CIVIL.

Salaries	$27,100
Contingent	2,840

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Estimate of the sums required for the expenses of the Southwest Executive Building for the fiscal year ending June 30, 1855.

For salary of superintendent, per acts of August 26, 1842, *sec. 4, Stat.* at Large, vol. 5, p. 524; and of Sept. 30, 1850, *sec. 1, Stat.* at Large, vol. 9, p. 543	$250

For salaries of four watchmen, per acts of August 26, 1842, sec. 4, Stat. at large, vol. 5, p. 524; of Sept. 30, 1850, sec. 2, Stat. at Large, vol. 9, p. 543; and of August 31, 1852, sec. 1, pamphlet edition of laws, p. 82	$2,000
For labor, fuel, and lights, and miscellaneous items, per act of August 26, 1842, sec. 22, No. 1, Stat. at Large, vol. 5, p. 528	3,865
Total estimate for fiscal year 1854–'55	6,115
Appropriated for fiscal year 1853–'54	$5,275*

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Estimate of the pay of commission and warrant officers of the navy, including the engineer corps, not on duty, for the fiscal year ending June 30, 1855.

For pay of commission and warrant officers of the navy not on duty	$355,457
Appropriated for fiscal year 1853–'54	$266,196.
For bounty for enlistment to 7,500 men, it being 10 per cent. on their aggregate pay, authorized by general order of Navy Department of May 23, 1853	112,500
Appropriated for fiscal year 1853–'54	$108,700.
	467,957

NAVY.

Pay of the navy	$467,957

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Estimate of the sums required for the transportation of the United States mails, authorized by the acts of Congress approved March 3, 1847, March 3, 1851, and July 21, 1852, for the fiscal year ending June 30, 1855.

For transportation of the mails from New York to Liverpool, and back, per acts of March 3, 1847, section 2, Statutes at Large, vol. 9, p. 187; and of July 21, 1852, section 1, pamphlet edition laws, p. 21	$858,000
For transportation of the mails from New York to New Orleans, Charleston, Savannah, Havana, and Chagres, and back, per act of March 3, 1847, sec. 4, Statutes at Large, vol. 9, p. 188	290,000

* The difference between the estimates for 1854–55, and the amount appropriated for 1853–'54, is caused by an increased estimate for "fuel and lights" and "miscellaneous items," the dilapidated condition of the building requiring an increased expenditure every year to keep it warm and in proper repair. The appropriations for the present fiscal year are inadequate to meet the absolutely necessary expenses under these heads.

For transportation of the mails from Panama to California and Oregon, and back, per act of March 3, 1847, section 5, p. 188, Statutes at Large, vol. 9; and of March 3, 1851, section 1, Statutes at Large, vol. 9, p. 623..... $348,250

1,496,250

Appropriated for the fiscal year 1853–'54.....$1,496,250

SPECIAL.

Transportation of the mail.....$1,496,250

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CAMBRIDGE, *October* 12, 1853.

SIR: I have the honor to transmit to the department, in compliance with its instructions, the following statement of the expenditure of money for the fiscal year ending 30th June, 1853, and of the whole amount appropriated and expended for the Nautical Almanac to that date:

Amount expended during the fiscal year ending 30th June, 1853	$21,529 22
Whole amount appropriated to same date	57,650 00
Total expenditure to same date	55,491 41

The expenditure during the fiscal year 1852–'53 has been increased beyond the estimate of November 2, 1852, by the printing of the "Tables of the Moon," the cost of which was fully provided for by the means on hand retained for that and similar purposes.

A detailed statement of the current expenses of the work during the present year is also respectfully submitted.

Very respectfully, your obedient servant,

CHARLES HENRY DAVIS,
Lieutenant, Superintendent.

Hon. JAMES C. DOBBIN,
Secretary of the Navy, Washington, D. C.

—

[Duplicate.]

Estimates for the American Ephemeris and Nautical Almanac for the fiscal year 1854–'55.

For salaries of computers	$16,250 00
For the purchase of paper, printing, &c., in order to publish in the year 1855 the "American Ephemeris" for the year 1858, and for occasional printing, stationery, books, binding, &c	3,630 00

For clerk	$500 00
For contingencies, including rent of office, fuel, servants' hire, &c.	500 00
Total	20,880 00

The above estimate for the Nautical Almanac exceeds the estimate of last year by the sum of $1,480, for the following reasons:

The cost of printing and stereotyping the first volume, which is the volume for 1855, actually exceeded the estimated cost in the estimates of last year by the following items, viz:

For printing, stereotyping, and press-work	$700 00
For paper	650 00
For binding	80 00
To which add, for a slight increase of salaries	50 00
Total	1,480 00

But, in accordance with the views expressed in my report, I have the honor to submit a further estimate for printing extra editions of the Almanac when the demand in the market exceeds the supply, and for theoretical work, as follows:

For extra editions of the American Ephemeris	$800 00
For theoretical work, and for printing new planetary tables	1,000 00
Total	1,800 00

This additional estimate added to the estimate for the regular current work of the office, makes a sum total of.... $22,680 00

Very respectfully,

CHARLES HENRY DAVIS,
Lieutenant, Superintendent American Almanac.

OCTOBER 12, 1853.

Detailed estimate of the current expenses of the Nautical Almanac for the fiscal year ending June 30, 1854.

SALARIES OF COMPUTERS.

Professor Peirce	$2,000
Professor Winlock	1,400
Mr. J. D. Runkle	1,400
Mr. Hedrick	1,200
Mr. Downes	1,000
Mr. Wright	1,000
Mr. Kerr	1,000
Mr. Kendall	900
Mr. Sprague	800
Mr. Oliver	800

Mr. Schubert	$800
Mr. E. J. Loomis	800
Mr. Bradford	600
Mr. N. Loomis	600
Mr. Eastwood	500
Miss Mitchell	500
Mr. C. A. Runkle	400
Mrs. Bache	300
Dr. B. A. Gould	250
	16,250

MISCELLANEOUS.

Stereotyping and printing 600 pages of Nautical Almanac, at $5 per page	3,000
Paper	650
Rent	300
Stationery	150
Fuel	130
Servant hire	120
Binding 1,000 copies of Almanac	80
Books	50
Contingent	150
	20,880

Very respectfully,

CHARLES HENRY DAVIS,

Lieutenant, Superintendent Nautical Almanac.

OCTOBER 12, 1853.

—

RECAPITULATION.

Civil.

Office of the Secretary of the Navy—	
Salaries	$27,100
Contingent	2,840
Southwest Executive Building—	
Salaries	2,250
Contingent	3,865

Navy.

Pay of the navy	467,957

Special.

Transportation of the mail	1,496,250
Nautical Almanac	22,680

No. 2.

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 12, 1823.

SIR: I have the honor to forward, herewith, estimates of the amounts which it is supposed will be required for the fiscal year ending June 30, 1855, for ordnance and ordnance stores, for the Naval Academy and for the Naval Observatory, and for different objects connected with them.

The letters from the superintendents of the Naval Academy and of the Naval Observatory, and the special explanations which are given in connexion with the several detailed estimates, show the causes of difference between the amounts proposed and those which were appropriated for similar objects for the present year.

The amounts asked for "ordnance and ordnance stores" are calculated for the usual current expenses, and for providing an armanent for the "Franklin," recently ordered to be prepared for the use of sails and an auxiliary steam-power. Should any new vessels of war be authorized, additional amounts will probably be required to complete their armaments and ordnance equipments.

By reference to document E, for the present and past years, the amount of labor at the different navy yards, and its increased cost for the past year, will account for the increased amount which is proposed in the present estimates under the item of labor.

The machine-shop at the Naval Academy, for which a special estimate is presented, is wanted for the instructor in the use of steam-power, to enable him to give to the students a practical knowledge in fitting up and repairing steam-engines, and of the connexions and uses of their different parts.

If the department should adopt the recommendation of the last board of examiners at the Naval Academy, and substitute for the present school-ship a vessel with auxiliary steam-power, the additional instruction which could be afforded by the steam arrangements of that vessel, and by the proposed machine-shop, would probably qualify the graduates from the academy to determine upon and direct repairs, in case of need, when at sea, and to exercise a judicious supervision over the management of the engines and their dependencies, in case of the absence or disability of the regular engineers.

The gate-way and guard-house are desired for reasons assigned by the superintendent of the academy.

The reasons given by the superintendent of the Naval Observatory for the proposed addition to the present observatory building, and for a new fence in front of it, for which "special estimates" are presented, are deemed satisfactory by the bureau.

Among other objects under the immediate direction of this bureau which have received attention during the past fiscal year, the preparation of boat and field guns, of cannon locks, sights and primers, of fuzes for shells, percussion caps and fixed ammunition for small-arms, and the experiments for ascertaining the relative ranges, accuracy, and other properties of different classes of guns, have been continued at

the navy yard at Washington, under the immediate direction of Lieutenant Dahlgren.

The experiments to test the endurance and strength of the different classes of guns, gun-carriages, and other ordnance implements used in the navy, have also been continued under the superintendence of Commander Farragut, and are nearly completed. Although a full report has not yet been received from him, enough has been done to show that the endurance and strength of the guns and the carriages may be considered highly satisfactory. None of the guns that have been tried, have failed to bear four hundred rounds with distant firing charges of powder and one projectile, and one hundred rounds with the prescribed charges of powder and two projectiles. After this proof, their strength was tested by firing them with increased charges of powder and a greater number or weight of projectiles. All of them have exhibited satisfactory powers of resistance, and some have shown a strength which has seldom been equalled.

The great importance of some provision for giving more careful instruction to officers and others in practical gunnery, than can be conveniently given in cruising vessels for general service, has frequently been brought to the notice of the department. The proposed substitution of a larger vessel for the present practice-ship, now assigned to the Naval Academy, would furnish the means for giving this instruction about six months in the year, without injurious interference with the use of the vessel for the students of the academy, and at a comparatively small additional expense.

The reports from the board which attended the examination of the students at the Naval Academy in June last, show that the course of study and the state of discipline which are established there have produced very satisfactory results, and warrant the expectation of increasing future usefulness.

At the Naval Observatory the ordinary duties have been duly performed. A fifth edition of sailing directions has been published, and many of them issued by the superintendent; and wind and current charts for new portions of the ocean have been prepared for the use of navigators. More than 2,500 copies of sailing directions, and upwards of 33,000 copies, or about 3,300 sets, of wind and current charts, have been distributed during the last fiscal year. The requests for both, from masters of vessels, are rapidly increasing in number.

Lieutenant Gilliss is still engaged in preparing a full report in relation to the observations and collections made by him, and by his direction, when he was employed in Chili under orders from the Navy Department.

Very respectfully, your obedient servant,

C. MORRIS,
Chief of the Bureau.

Hon. J. C. DOBBIN,
Secretary of the Navy, Washington.

Summary of the estimates from the Bureau of Ordnance and Hydrography for the fiscal year ending June 30, 1855.

For what objects	Amount estimated for year ending June 30, 1855.	Amount appropriated for year ending June 30, 1854.
A.—For pay and contingent expenses of the bureau	$11,550	$11,550
B.—For pay of officers on ordnance duty	20,700	22,200
C.—For ordnance and ordnance stores	250,000	200,000
F.—For the purchase of articles, and incidental expenses connected with the Hydrographical Office and Naval Observatory	55,260	51,900
F 1.—Special estimate for extending west wing of observatory building, and for iron fence, &c.	28,750	
G.—For pay of superintendent and officers on duty at the Hydrographical Office and Naval Observatory	39,200	34,000
H.—For the erection, repair, &c., of buildings, and for contingent expenses of the Naval Academy	53,768	46,059
I.—For pay of officers, &c., at the Naval Academy	87,205	78,465
Special appropriation for purchase of land, building hospital, &c., Naval Academy	.....	38,000
Total	546,433	482,174

D.—Statement of value of stores on hand, and values received and expended, from July 1, 1852, to June 30, 1853.
E.—Statement of amount and cost of labor from July 1, 1852, to June 30, 1853.
J.—Statement of contracts for year ending June 30, 1853.
K.—Scales of offers to furnish timber, &c., during the year ending June 30, 1853.

C. MORRIS,
Chief of the Bureau.

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 12, 1853.

A.—*Estimate of the amount required for the support of the Bureau of Ordnance and Hydrography for the year ending June* 30, 1855, *under acts of Congress approved August* 31, 1842, *and March* 3, 1853.

For salary of chief of bureau	$3,500
For salary of one clerk of the fourth class	1,800
For salary of four clerks of the second class, including the draughtsman, at $1,200	4,800
For salary of messenger	700
	10,800
Amount appropriated for year ending June 30, 1854	10,800
CONTINGENT EXPENSES.	
For blank books and stationery	$500
For miscellaneous items and labor	250
	750
Amount appropriated for year ending June 30, 1854	750

C. MORRIS,
Chief of Bureau.

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 12, 1853.

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B.—*Estimate of pay required for officers proposed to be employed on ordnance duty, for the year ending June* 30, 1855.

One captain, as inspector	$3,500
Two commanders, as assistant inspectors	4,200
One lieutenant, as assistant inspector, charged with experiments in gunnery at the Washington navy yard	2,500
Seven lieutenants, at $1,500	10,500
	*20,700
Amount estimated for year ending June 30, 1854	22,200

* This reduction is produced by employing only seven, instead of eight, lieutenants.

C. MORRIS,
Chief of Bureau.

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 12, 1853.

C.*—*Estimate of the ordnance and ordnance stores required for the navy, and for contingent expenses, for the year ending June* 30, 1855.

For cannon	$40,000 00
For boat-guns and equipments	15,000 00
For gunpowder	15,000 00
For shot and shells	20,000 00
For powder-tanks	20,000 00
For gun-carriages and materials	25,000 00
For laboratory stores, and for articles of equipment for guns	20,000 00
For small-arms, swords, &c	20,000 00
For labor not included in the above	50,000 00
For contingent expenses, viz: Printing, binding, advertising, freight, and transportation; porterage, storage, and agencies; experiments for ascertaining the endurance, ranges, &c., of cannon	25,000 00
	250,000 00
Amount appropriated for year ending June 30, 1854	200,000 00

* The sums asked, although they give in the aggregate a larger amount than the last appropriation, are considered necessary for the objects stated.

C. MORRIS,
Chief of the Bureau.

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 12, 1853.

D.—*Statement of cost, or estimated value, of stores on hand at the several navy yards, July 1, 1852; of articles received and expended from June 30, 1852, to June 30, 1853; and of those remaining on hand July 1, 1853, which are under the direction of the Bureau of Ordnance and Hydrography.*

Navy yards.	On hand July 1, 1852.	Receipts.	Expenditures.	On hand July 1, 1853.
Portsmouth	$89,050 40½	$4,731 39	$2,027 43	$91,754, 36½
Boston	565,546 69	112,794 00	56,243 65	622,097 04
New York	636,336 99	168,566 31	205,609 79	599,293 51
Philadelphia	32,090 08	10,645 55	6,842 43	35,893 20
Washington	169,313 42½	104,675 15	130,895 61½	143,092 96
Norfolk	785,938 20	133,850 27	160,876 66	758,911 81
*Pensacola	137,024 04	2,483 43	1,263 73	138,243 74
Memphis	2,695 48	84 04	84 04	2,695 48
On the lakes	38,746 48			38,746 48
Total	2,455,741 79	537,830 14	563,843 34½	2,430,828 58½

* Return for June, 1853, not received.

C. MORRIS,
Chief of Bureau.

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 12, 1853.

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E.*—*Statement of the number of days' labor, and cost thereof, from July 1, 1852, to July 1, 1853, at the respective navy yards, chargeable to the Bureau of Ordnance and Hydrography.*

Navy yards.	No. of days' labor.	Cost of labor.	Average per day.
Portsmouth	604	$867 43	$1 43
Boston	10,725½	18,136 81	1 68
New York	13,419	20,442 94	1 52½
Philadelphia	2,476½	3,951 10	1 59
Washington	44,731½	65,021 09	1 45½
Norfolk	22,033¼	33,774 67	1 54
Pensacola	845	1,539 15	1 82
Memphis	3	3 00	1 00
Total	94,837¾	143,736 19	1 52

*This table shows a general advance in the rate of wages for the fiscal year ending June 30, 1853, over that for the preceding year; and there is no reason for expecting any reduction.

C. MORRIS,
Chief of Bureau.

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 12, 1853.

NATIONAL OBSERVATORY,
Washington, July 12, 1853.

SIR: I have the honor to submit herewith estimates for the support of this office for the year ending June 30, 1855.

You will observe that the estimates for the support of the office, exclusive of the cost of the additional buildings proposed, exceed the estimates for the year current. This excess arises chiefly in the estimates for publishing wind and current charts, hydrographical surveys, &c.

It is supposed that the expedition to the La Plata, and the expedition for the survey of the North Pacific and China seas, will send home their surveys for publication as fast as they are made, and that the increase in this item will not more than satisfy the demands from that source upon it.

The increasing numbers of, and demands for, the wind and current charts, call for the increase in this item.

I send herewith plans and detailed estimates for the extension of the west wing, the erection of a fire-proof building, &c.

This building is intended to correspond, in its exterior, to the Superintendent's dwelling, and is wanted for the accommodation of the business of the office, as well as for the protection against liabilities to fire, of the records of the office, and of the nautical instruments on deposite here for the navy, both of which are valuable, and either of which it would be difficult to replace or restore if lost by fire.

The estimate for an iron fence along the north front of the grounds is submitted at this time, because the enclosure on that side—a picket-fence of wood, on a brick wall 1½ foot high—requires extensive repairs. The wall is tumbling down, and the fence requires painting, besides the continual necessity of keeping it in repair. I have, therefore, judged it more economical, instead of asking for an appropriation to put this part of the enclosure in repair, to ask for an appropriation for an iron fence.

A fence of cast iron would be cheaper, but a cast-iron fence would, I am sure, be subject to continual repair, on account of the wantonness of the same class of persons from whose depredations I have found it impossible to protect the picket-fence.

I have, therefore, submitted estimates for a wrought-iron fence, like that by which Lafayette square is enclosed.

Respectfully, &c.,
M. F. MAURY,
Lieut. United States Navy.

Com. C. MORRIS,
Chief of the Bureau of Ordnance and Hydrography.

F.—*Estimate of the amount required for the Hydrographical Office and United States Naval Observatory for the year ending June 30, 1855.*

For the purchase of nautical instruments required for the use of the navy; for the repairs of the same, and for the repairs of astronomical instruments	$10,500 00
For the purchase of nautical books, maps, and charts, and for backing and binding the same	15,000 00
For printing and publishing sailing directions, hydrographical surveys, and astronomical observations	8,000 00
For continuing the publication of the series of wind and current charts, and for defraying all the expenses connected therewith	12,500 00
For models, drawings, and copying, $1,000; for postage, freight, and transportation, $1,300; for working lithographic press, including chemicals, $300; for keeping grounds in order, $1,800; for fuel and lights, repairs of buildings, and for all other contingent expenses of the Hydrographical Office and United States Naval Observatory, $1,700	6,100 00
For the wages of the following persons, proposed to be employed at the Hydrographical Office and United States Naval Observatory, viz: One lithographer, $900; one instrument maker, $900; two watchmen, at $500 each; and one porter, at $360	3,160 00
	*55,260 00
Amount appropriated for year ending June 30, 1854	51,900 00
Excess of estimates for 1854–'55 over those for 1853–'54	3,360 00

Causes of excess.

Addition for purchase of books, maps, and charts, and for backing and binding the same	$2,500	
Addition for publishing sailing directions, hydrographical surveys, and astronomical observations	2,500	
Addition for continuing publication of wind and current charts	2,500	
	7,500	

* See Lieutenant Maury's letter for the causes of this increase.

Deduct $500 for purchase and repair of instruments; $100 for working lithographic press; $200 for postage, freight, &c.; $40 for keeping grounds in order; and $800 for fuel and lights.	$1,640	
	5,860	
Deduct, also, for gas-pipes, gas-fixtures, &c., not included in estimates for 1854–'55.....	2,500	
		$3,360 00

F 1.—*Special estimate.**

For extending west wing of observatory building, coal-vault and portico, as per plans submitted.....	$20,600 00
For wrought-iron fence for the north enclosure of the observatory, similar to that around Lafayette square.....	8,150 00
	28,750 00

C. MORRIS,
Chief of the Bureau.

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 12, 1853.

* See letter from Lieutenant Maury, and of Chief of the Bureau.

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G.—*Estimate of the amount required for the pay of officers and others proposed for duty at the Hydrographical Office and United States Naval Observatory, for the year ending June* 30, 1855, *chargeable to the general appropriation for the "pay of the navy."*

One lieutenant as superintendent.....	$3,000 00
Ten lieutenants, at $1,500 each.....	15,000 00
Eight passed midshipmen, at $750 each.....	6,000 00
Eight professors of mathematics, at $1,500 each.....	12,000 00
One assistant observer, (civil,) at $2,000.....	2,000 00
One clerk, (civil,) at $1,200.....	12,000 00
	39,200 00
Amount appropriated for year ending June 30, 1854.....	34,000 00
Excess of 1854–'55 over 1853–'54.....	5,200 00

Causes of excess.

Addition of one lieutenant	$1,500	
Addition of two professors of mathematics	3,000	
Increase of pay allowed by last Congress to the assistant observer	500	
Increase of pay allowed by last Congress to the clerk	200	
		$5,200 00

C. MORRIS,
Chief of Bureau.

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 12, 1853.

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U. S. NAVAL ACADEMY,
Annapolis, Md., July 30, 1853.

SIR: In compliance with your instructions of the 18th of May, I submit estimates for the Naval Academy for the fiscal year ending June 30, 1855.

The estimate for a work-shop, and complete set of tools for repairing engines, is founded upon the approval by the board of examiners of my suggestion to them, of the importance of such a shop, with the necessary tools, to enable the instructors to teach the students, more thoroughly than could otherwise be done, the use, construction, and management of the steam-engine.

The guard-house, to be used as a place of confinement, I deem necessary as a means of discipline. Cases frequently arise where no other lawful mode of punishment would be effectual.

The estimate for completing the gas works, &c., is occasioned by the increased price of iron, wages, and materials, since the original estimate was made.

The estimate for a telescope is submitted upon the recommendation of Prof. Chauvenet. Such an instrument will be necessary if we desire the higher classes to be instructed in astronomy: without it, they cannot be taught fully how to use such instruments.

I have included in the estimate for wages an amount for an assistant librarian. This I consider necessary, as there is no member of the academic staff who can devote sufficient time to it without neglecting other duties.

I have also submitted estimates for attendants for the gas and heating apparatus. Their services will be required when those works are in operation. There is no person estimated for, whose services can, in my judgment, be dispensed with.

"Pay of the navy." These estimates embrace some persons in addition to those estimated for the present fiscal year, and an increase of compensation for others: all authorized by the Secretary of the *Navy.*

These additions are, a professor, and musicians, and the increase of pay to naval assistant professors.

The increase of pay to the executive officer and commander of the "school-ship" is occasioned by his promotion.

I have the honor to be, very respectfully, your obedient servant,

C. K. STRIBLING,
Superintendent.

Com. C. MORRIS,
Chief of the Bureau of Ordnance, &c., Washington.

H.*—*Estimate of the amount required for the erection and repairs of buildings, for the improvement and preservation of the grounds, and for contingencies, at the Naval Academy, for the fiscal year ending June 30, 1855.*

New gate and guard-house	$3,225 00	
Workshop for repairing engines	5,000 00	
Completing gas works, and extending gas-pipes to officers' quarters	3,000 00	
Grading, filling in low grounds, and keeping public grounds in order	10,000 00	
Repairs of all kinds	5,000 00	
		$26,225 00
For the wages of the following persons, viz:		
Six watchmen, at $1 12 per day, each	2,463 75	
One messenger	250 00	
One attendant at recitation hall, at $18 per month	216 00	
One attendant at chemical laboratories, at $18 per month	216 00	
One attendant at library, observatory, and chapel, at $18 per month	216 00	
One attendant for gas and heating apparatus, at $1 50 per day	547 50	
One assistant attendant for gas and heating apparatus, at $1 per day	365 00	
One assistant librarian	500 00	
Ten laborers to attend and keep in order midshipmen's quarters and public grounds	1,593 75	
		6,368 00
Contingent expenses.		
Fuel and lights	2,500 00	
Purchase of books for library	2,000 00	
Stationery, blank books and forms	500 00	
Furniture and fixtures for public buildings	5,000 00	
Complete set of tools for repairing engines, to be used in instruction	5,000 00	
Equatorially mounted telescope, of about 10 feet focal distance, including charges to Annapolis	4,000 00	
Electric clock, on improved plan, and fixtures	200 00	
New theodolite	275 00	
Incidental repairs and expenses in mathematical department	200 00	
Incidental repairs and expenses in philosophical department	500 00	
All other incidental expenses	1,000 00	
		21,175 00
		53,768 00
Amount appropriated for year ending June 30, 1854		46,059 00
Excess of 1854-'55 over 1853-54		7,709 00

*See letter of Capt. Stribling, and of chief of bureau.

Causes of excess.

Addition for wages of persons to be employed	$1,309 00	
Addition for purchase of tools for repairing engines and instruments	8,175 00	
	9,484 00	
Deduct difference in item for buildings and repairs, &c	1,775 00	
		$7,709 00

C. MORRIS, *Chief of the Bureau.*

BUREAU OF ORDNANCE AND HYDROGRAPHY, *September* 12, 1853.

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I.—*Estimate of the amount required for the pay of officers and others proposed for duty at the Naval Academy for the year ending June* 30, 1855, *and chargeable to the general appropriation for the "pay of the navy."*

One commander, as superintendent	$2,500 00
One commander, as executive officer and commanding "school-ship"	2,500 00
One lieutenant, assistant to executive officer	1,500 00
One surgeon	2,000 00
One chaplain	1,500 00
One master, inspector of mess-hall, and assistant professor	1,000 00
One professor of mathematics	1,500 00
One professor of astronomy, navigation, and nautical surveying	1,500 00
One professor of gunnery and infantry tactics	1,500 00
One professor of natural and experimental philosophy	1,500 00
One professor of ethics and English studies	1,500 00
One professor of the French language	1,500 00
One professor of the Spanish language	1,500 00
One professor of drawing and teacher of the art of defence	1,500 00
Three assistant professors of mathematics, (acting masters,) at $1,000 each	3,000 00
Two assistant professors of ethics, at $1,000 each	2,000 00
One assistant professor of natural and experimental philosophy	1,000 00
One assistant professor of French	1,000 00
One assistant professor of Spanish, (acting master)	1,000 00
One secretary	1,250 00
One clerk to superintendent	500 00
One carpenter	700 00
One hundred and forty midshipmen as students, at $350 each	49,000 00
One gunner's mate	300 00
One hospital steward	360 00
One coxswain	288 00
One steward, for midshipmen's mess	288 00
One cook, for midshipmen's mess	216 00
One seaman	217 00
One ordinary seaman, attendant at hospital	193 00
One master of the band	288 00
Six musicians of the first class	1,302 00
Five musicians of the second class	965 00
	86,867 00
One drummer and one fifer, payable from the appropriation for the marine corps.	338 00
Total	87,205 00
Amount appropriated for year ending June 30, 1854	78,465 00
Excess of 1854–'55 over 1853–'54	8,740 00

Causes of excess.

Promotion of executive officer	$700 00
Promotion of assistant to executive officer	500 00
Increase for length of service to surgeon	200 00
Advancement of assistant to professor of Spanish	300 00
Addition of one professor of astronomy, navigation, &c	1,500 00
Addition of one assistant professor of natural and experimental philosophy	1,000 00
Promotion of passed midshipmen to masters for three assistant professors of mathematics	750 00
Promotion of one passed midshipman to master for assistant professor of Spanish	250 00
Addition of band, one seaman, one ordinary seaman, and transfer of stewards and cooks from daily wages to navy pay	3,757 00
	8,957 00
Deduct for bugler, omitted for 1854–'55	217 00
	8,740 00

C. MORRIS, *Chief of the Bureau.*

BUREAU OF ORDNANCE AND HYDROGRAPHY, *September* 12, 1853.

J.—*Statement of contracts entered into by the Bureau of Ordnance and Hydrography during the year ending June* 30, 1853.

Names of contractors.	Articles contracted for.	Place of delivery.	Date of contract.	Expiration of contract.	Price.	Amount of contract.
John Petty	Gun-carriage timber and handspikes.	Norfolk	July 23, 1852	July 1, 1853	Timber, $45 per M feet; 500 handspikes, 25 cents each; 500 handspikes, 40 cents each.	$4,101 13
S. G. Bogert	Gun-carriage timber and handspikes.	New York	July 26, 1852	do	Timber, $50 per M feet; handspikes, 40 cents each.	4,395 70
S. G. Bogert	Gun-carriage timber.	Boston	do	do	$55 per M feet	4,615 27
D. Eggert & Son	Rating chronometers, &c.	Brooklyn	Aug. 27, 1852	June 30, 1854	Rating, $3; cleaning, $10 each.	Not stated.
Franck Taylor	Quills	Washington	Aug. 31, 1852	Aug. 1, 1853	$4 75 per M.	4,750 00
E. J. Du Pont, de Nemours, & Co.	Powder, musket and cannon	Norfolk	Nov. 27, 1852	May 1, 1853	12½ cents per pound	6,562 50
Loomis, Swift, & Masters	do	do	Boston	Nov. 29, 1852	do	13 cents per pound	6,825 00
J. P. Garesché	do	do	New York	Dec. 3, 1852	do	12½ cents per pound	6,562 50
Thomas Lewis	Repairing observatory wall	Washington	Feb. 16, 1853	May 31, 1853	22, 51, and 76 cents per running foot.	1,400 00
Stephen G. Bogert	Lumber	do	June 16, 1853	Aug. 1, 1853	Different prices	1,852 00
Howell & Morsell	Drugs, &c., &c., &c.	do	June 20, 1853	do	do	283 87
Charles A. Secor & Co	Iron, steel, and miscellaneous.	do	June 25, 1853	do	do	4,522 71

C. MORRIS, *Chief of Bureau.*

Bureau of Ordnance and Hydrography, *September* 12, 1853.

K.—*Scale of offers to furnish timber under the advertisement of the Bureau of Ordnance and Hydrography, dated June 4, 1852, to be delivered at the navy yards at Charlestown, Mass., Brooklyn, N. Y., and Gosport, Va., one-half on or before the 1st of April, 1853, and the whole on or before the 1st of July, 1853.*

AT CHARLESTOWN, MASSACHUSETTS.

White oak for axle-trees, brackets, and transoms—83,914 feet, board measure, and 500 hickory handspikes.

Number.	Names of bidders.	Price per 1,000 feet for white oak, and price for each handspike.	Total amount.	
			For white oak.	For handspikes.
*1	S. G. Bogert, New York—			
	For white oak	$55 00	$4,615 27	.....
	For handspikes	50	.....	$250 00
2	Fred. A. Southmayd, New York—			
	For white oak	.....	.....	.....
	For handspikes	56	.....	280 00
3	Jos. L. Ross, Boston—			
	For white oak	60 00	5,034 84	.....
	For handspikes	75	.....	375 00
4	John Petty, Norfolk, Va.—			
	For white oak	65 00	5,454 41	.....
	For handspikes	40	.....	200 00
†5	William Lang, Boston—			
	For white oak	59 50	4,992 88	.....
	For handspikes	Indistinct.	.....	.....
8	Storer & Stephenson, New York—			
	For white oak	65 00	5,454 41	.....
	For handspikes	1 00	.....	500 00

* Accepted.

† Number 5 came under cover to Bureau of Construction. The price for the handspikes has been altered, and is not clearly legible. The addition appears to be incorrect: for the sum asked in words at length for the whole is less than the sum shown in figures for the white-oak stuff alone.

Scale of offers to furnish timber, &c.—Continued.

AT BROOKLYN, NEW YORK.

White oak for axle-trees, brackets, and transoms—83,914 *feet, board measure, and* 500 *hickory handspikes.*

Number.	Names of bidders.	Price per 1,000 feet for white oak, and price for each handspike.	Total amount.	
			For white oak.	For handspikes.
6	John Petty, Norfolk, Va.—			
	For white oak	$60 00	$5,034 84	.....
	For handspikes	40	.....	$200 00
7*	S. G. Bogert, New York—			
	For white oak	50 00	4,195 70	.....
	For handspikes	40	.....	200 00
8	Storer & Stephenson, New York—			
	For white oak	65 00	5,454 41	.....
	For handspikes	90	.....	450 00
9	Fred. A. Southmayd, New York—			
	For white oak	.....	.....	.....
	For handspikes	49	.....	245 00
10	David D. Barber, Penn's Grove, Salem county, New Jersey—			
	For white oak	69 00	5,790 06	.....
	For handspikes	.....	.....	.....

* Accepted.

AT GOSPORT, VIRGINIA.

White oak for axle-trees, brackets, and transoms—83,914 *feet, board measure, and* 500 *hickory handspikes.*

Number.	Names of bidders.	Price per 1,000 feet for white oak, and price for each handspike.	Total amount.	
			For white oak.	For handspikes.
8	Storer & Stephenson, New York—			
	For white oak	$60 00	$5,034 84	.....
	For handspikes	85	.....	$425 00
11	Hannum & Painter, Sandy Point, Del.—			
	For white oak	60 00	5,034 84	.....
	For handspikes	.....	.....	.....
12	S. G. Bogert, New York—			
	For white oak	50 00	4,195 70	.....
	For handspikes	50	.....	250 00
13†	John Petty, Norfolk, Va.—			
	For white oak	45 00	3,776 13	.....
	For handspikes	25	.....	125 00

† Accepted.

Offers opened July 14, 1852, in presence of—

J. P. McCorkle,
E. M. Tidball.

The proposals enumerated in this abstract are all that were received under the advertisement dated June 4, 1852. They were opened in our presence, and duly numbered, and the terms of each entered upon this abstract on the 14th July, 1852.

The offer of S. G. Bogert, numbered 1, being the lowest for the white-oak timber to be delivered at Charlestown, Massachusetts, is accepted.

The offers of S. G. Bogert, numbered 7, being the lowest for the white-oak timber to be delivered at the navy yard, Brooklyn, New York, and equal with the offer of John Petty, numbered 6, for the handspikes, and this having fallen to S. G. Bogert by lot, the offer of S. G. Bogert is accepted for the white-oak timber and for the handspikes for that yard.

The offers of John Petty, numbered 13, being the lowest for both the white-oak timber and the handspikes to be delivered at the navy yard, Gosport, Virginia, they are severally accepted for that yard; and his offer, numbered 4, for handspikes to be delivered at the navy yard, Charlestown, Massachusetts, being the lowest offer for that yard, is also accepted.

The offer of William Lang (No. 5) is considered informal.

C. MORRIS, *Chief of Bureau.*
J. P. McCORKLE, *Clerk.*
E. M. TIDBALL, *Clerk.*

BUREAU OF ORDNANCE AND HYDROGRAPHY,
July 15, 1852.

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K.—*Schedule of offers for lumber, hardware, &c., to be delivered at the navy yard, Washington, under advertisement of navy agent at Washington, dated April* 18, 1853. *Offers received until June* 6, 1853.

CLASS No. 1.—*Lumber.*

1	Stephen G. Bogert.....	$1,852 00	
2	H. N. & J. W. Easby.....	2,050 50	No certificate as to guarantors.
3	James Bigler.....	2,106 50	
4	Jos. M. Trowbridge.....	2,206 50	Error of 50 cents in extension. No certificate of guarantors.

CLASS No. 2.—*Iron, steel, ironmongery, &c.*

5	Stephen G. Bogert.....	$4,746 80	
6	E. Wheeler.....	4,604 61	
7	Howe & Brown.....	4,789 71	
8	Charles A. Secor & Co.....	4,453 81	Error of $1 47 by inserting 3 instead of 2 dozen 6-inch hand bastard files.

K.—*Schedule of offers for lumber, hardware, &c.*—Continued.

CLASS No. 3.—*Drugs, chemicals, &c.*

9	Howell & Morsell	$283 87½	
10	Z. D. Gilman	333 73	Error of $1 in addition. No certificate as to guarantors.
11	A. G. Ridgeley	356 70	

CLASS No. 4.—*Miscellaneous.*

12	Charles A. Secor & Co	$68 90	Error in quantity of sash rope of 30 fathoms, amount $1 80 added to aggregate. Offers for 120 fathoms instead of 150 fathoms, at 6 cents per fathom.

Opened in presence of—
C. MORRIS,
CHAS. WM. SKINNER,
J. P. MCCORKLE.

The offer No. 1 of Stephen G. Bogert is accepted for class No. 1.
The offer No. 8 of Charles A. Secor & Co. is accepted for class No. 2.
The offer No. 9 of Howell & Morsell is accepted for class No. 3.
The offer No. 12 of Charles A. Secor & Co. is accepted for class No. 4.

C. MORRIS,
Chief of the Bureau of Ordnance and Hydrography.

BUREAU OF ORDNANCE AND HYDROGRAPHY, *June* 13, 1853.

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RECAPITULATION OF ESTIMATES.

Civil.

Salaries	$10,800
Contingent	750

Navy.

Pay of the navy	147,105
Ordnance and ordnance stores	250,000

Special.

Nautical books, hydrographical office, &c.	84,010
Naval Academy	53,768

No. 3.

BUREAU OF YARDS AND DOCKS,
October 31, 1853.

SIR: In compliance with your directions, I have the honor to submit my annual report of the progress and state of the works of improvement, &c., at the several navy yards for the last fiscal year ending 30th June, 1853, together with estimates for the improvements and repairs that are deemed necessary at the several navy yards and dry docks for the next fiscal year ending June 30, 1855, with such remarks and explanations as will, I trust, make apparent the necessity for the several improvements embraced in the estimates.

Although the aggregate amount estimated by this bureau seems to be large, it will be remembered that there are nine navy yards and six dry docks, to be always kept in such condition and repair as would be necessary to enable the department to meet any and every emergency requiring their full operation.

Besides the ordinary and usual repairs and improvements, it is, in the opinion of the bureau, advisable to advance in this branch of the government with the progress of the age, whilst its revenues afford such abundant means, by erecting large and permanent structures, such as buildings for foundries, machine-shops, quays, piers, store-houses, &c., upon the latest and most approved plans. Such structures will enable the department to construct and repair within our own dock-yards all the steam-engines that may be required for the vessels of the navy, and afford ample and safe accommodation for vessels and for the preservation and protection of the building materials, a supply of which it is sound policy and good economy to keep on hand. The mistakes which have been made in, and the inefficiency of some of our steam-vessels, make the necessity of such improvements very evident; I have, therefore, in accordance with your directions, prepared estimates for the commencement of these buildings, to be erected at the navy yards at Boston, New York, and Norfolk, which are respectfully submitted.

Under the head of each yard I offer such explanatory notes as will furnish satisfactory information as regards the works which have been completed during the past year, as well as those now in progress, and as regards the works also which are contemplated for the ensuing fiscal year. These notes will, I also trust, satisfactorily explain the estimates now submitted.

PORTSMOUTH, N. H.

Since the 30th June, 1852, the machinery and tools for the smithery have been erected and put in successful operation; the magazine wharf and filling in low grounds have also been finished, and furnish a convenient landing for powder, and easy access to the magazine. The amount expended on these objects during the fiscal year ending the 30th June, 1853, is $247 94.

The other authorized works upon which progress has been made during the past year, are: Wall west of timber-sheds 6 and 7, which is finished, and the filling and grading necessary to render it useful are

nearly completed. The walls of the engine-house are finished, and the interior work is in progress; to prepare the foundation for the machinery and erect a chimney, an additional appropriation will be required: the engine and machinery for this building are now making at this yard. All the smith's and joiner's work for the timber-shed has been prepared, the excavation of the foundation is nearly completed, and the masonry is commenced. The foundations for shoring ships upon the floating-dock railway is about three-fourths finished, and the amount appropriated will be sufficient for its completion. The work upon these several objects has advanced in a satisfactory manner; due regard has been had to the preservation of the public property by making such general repairs to the existing improvements as were required; and on all the above objects, including those which have been completed, there has been expended during the fiscal year ending 30th June, 1853, the sum of $31,281 28.

Estimates are submitted for the next fiscal year for the following objects, viz: Quay wall on the north and west side of the dock basin; completing engine-house for the reception of machinery; coal-house; repairing and finishing timber slip; removing ledge; tools for smiths and machinists; granite launching and hauling-up ways in ship-house No. 4; cisterns for officers' quarters; addition of 50 feet to ship-house No. 4; and for repairs of all kinds—amounting to the sum of $94,190.

These works are all deemed of importance, and will add much to the efficiency of the yard. The quay walls on the north and west sides of the dock basin are of much importance, as their connexion with the basin renders them necessary for the protection and also for the convenient use of this part of the yard, and for the working of the floating dock.

The amount asked for the completion of the engine-house is required for the erection of a large chimney and the construction of foundations for the machinery now making for this building; when completed, the engine-house will be one of the most useful buildings in the yard, affording facilities for the rapid and economical execution of ship-work. The coal-house is much wanted, as there is at present no suitable place in the yard for the stowage and protection of this article. The completion of the timber slip will add greatly to the facilities for landing timber, and be a great improvement to that portion of the yard. The amount asked for removing ledge is very desirable to afford convenient access to several important works, and this object should be steadily pursued until the ledge is reduced to a proper grade. The tools required for the smiths and machinists are necessary for the expeditious and economical performance of the work in those departments.

The launching and hauling-up ways in ship-house No. 4 should be built of granite; they are required for convenience and safety, and will furnish a desirable working space in building ships. A small amount is asked for cisterns for officers' quarters, which is highly necessary. The addition to ship-house No. 4 is indispensable, as the present building is not of sufficient length to accommodate steamers of the largest class; and the ship Franklin, now undergoing repairs in this house, will *not be* entirely covered by the present roof. The amount asked for

repairs of all kinds, is such as will be required for the proper and careful preservation of the public property.

BOSTON.

The works completed at this yard during the past fiscal year are store-house No. 36, stone skids to timber-sheds, sail-loft and cordage store, and paving around the same. These works are all of a substantial and permanent character, and have been completed for the amounts originally estimated for them. The amount expended during the past year is $6,921 15.

The other authorized works in progress are the pitch-house and oakum loft, and the muster office, both of which are nearly finished. The amount expended upon all authorized improvements, including such repairs as were required upon the existing works during the fiscal year ending 30th June, 1853, is $29,883 37.

Plans and estimates are submitted for the next fiscal year for the following objects, viz: Machine-shop, smithery, foundry, and forge-shop; boiler-house and chimney, coal-house, stone wall on north side of timber-dock; paint-shop; completing cooperage and store-house; paving between sheds 31 and 32; rebuilding boiler room for dry-dock engine; paving in front of cooperage; gas-pipes and fixtures for the yard and buildings; completing muster office and pitch-house, stables, anchor-hoy, new steam-engine for dry-dock, and for repairs of all kinds—amounting to the sum of $250,900.

The great inconvenience, expense, and delay, which have been experienced in the construction and repairs of steam-engines and other machinery, by contract with private establishments, illustrate the importance and necessity of providing means for the execution of such work with more expedition and certainty. The wants of the service in this respect are constantly increasing, and it is believed that the erection of establishments for the construction of heavy engines at some of the principal yards, is the only proper method by which the exigencies of the service can be promptly and economically provided for; and for this reason the amount asked for the machine-shop, smithery, foundry, and forge-shop, and for the boiler-house and chimney, is most strenuously urged. The coal-house is required for the protection of the smiths' coal; the stone wall along the north side of the timber-dock is necessary for the security of that part of the yard. The amount asked for the paint-shop is much wanted, the present shop being situated in an inconvenient position, in one of the store-houses, where large quantities of clothing and other dry articles are constantly stored; and as fire recently originated in one of the paint-shops from spontaneous combustion, causing great loss of property, it was deemed prudent to construct a paint-shop separately from the other buildings. The cooperage and store-house is an important object, and the amount asked for it is much wanted. The present cooperage is an old wooden building, in dangerous proximity with other valuable stores, and should be removed as speedily as possible. The paving between sheds Nos. 31 and 33 will greatly facilitate the transportation of heavy articles over this part of the yard. The boiler-house for the dry-dock engine was

built upon an insecure foundation, and requires to be rebuilt and enlarged. It is proposed to light the yard with gas, and for this purpose an estimate of the cost of pipes and fixtures has been made, and is submitted as a desirable improvement. For the completion of the muster office and pitch-house, a small additional appropriation is required. The cost of these buildings has exceeded the original estimate, owing to some unexpected difficulties in obtaining good foundations, and to the advance in the cost of labor and materials. The stables attached to the officers' quarters are a collection of old wooden buildings in the vicinity of the spar shed, and endanger much valuable property. It is proposed to remove them and erect other more secure and suitable buildings.

The amount asked for the anchor-hoy and water-tank is much wanted.

The steam-engine for draining the dry dock has been in pretty constant use for some twenty years, and now requires very extensive repairs. It is believed to be economy to remove this old engine and replace it with a new one of more modern construction and greater power. The amount asked for repairs, of all kinds, will be required to meet the expenses under this head at this extensive and important station.

NEW YORK.

The cisterns, gutters and leaders filling in part of the timber-pond, gas-pipes and fixtures, and the lightning conductors, have been completed since the 30th of June, 1852, and for these objects there has been expended the sum of $10,300 30.

During the past year the dredging machine has been employed in front of the dry dock. The channel has been dredged to the depth of twenty feet below low tide, and the machine is now at work preparing the line for the quay wall. The piling for the pier near the entrance of the dry dock, which is connected with the quay wall, has been completed, and a large quantity of concrete brought up to low-water mark in readiness for the masonry. A large portion of the stone for this work is prepared for use. The paving and flagging appropriated for has been nearly completed, and adds much to the facilities for transporting heavy articles. The cob-wharf has been extended from the dry dock easterly to a point near the south line of the saw-mill, and is thus far finished. The piling and foundation of the saw-mill are completed, and the walls raised to the second floor, and the building will be under cover early in the fall. The engine-house is now completed, except some of the internal work, which is rapidly progressing, and the building will soon be ready for the machinery—a contract for which has been made with the proprietors of the West Point foundry—and the work is in a state of forwardness. The old coffer-dam piles, which remained in front of the dry dock, and which interfered with its use, have been removed, and there is now an unobstructed passage for vessels passing in and out of the dock. A portion of the line of sewer, forming an outlet from the public sewer of Brooklyn through the lands recently purchased as an addition to the navy yard, has been piled, and

about sixty feet of the masonry completed. The new water-tank has been commenced, and is about two-thirds finished. Such repairs as were necessary for the preservation of the buildings and docks have been made; and for all improvements and repairs there has been expended, during the fiscal year ending 30th June, 1853, the sum of $179,842 57.

Plans and estimates are submitted for the next fiscal year for the following objects, viz: Carpenters' and joiners' shop; towards a foundry and boiler-shop; completing saw-mill; completing sewer; continuation of quay wall; filling in timber-pond; dredging channels; paving and flagging around dry dock; towards filling in new purchase; lightning conductors; water-pipes; iron railing on wall along Navy street, and repairs of all kinds—amounting to the sum of $337,300.

The present joiners' shop will soon be removed to give place to the new smithery, and as there is no building in the yard which can be advantageously used by the carpenters and joiners, it is very desirable that a proper building should be erected for their use. At this yard it is also proposed to provide greater facilities for the construction and repairs of machinery, and for that purpose an estimate is submitted and strongly urged for commencing a foundry and boiler-shop. The saw-mill is in a state of forwardness, but owing to the difficulty encountered in procuring a proper and safe foundation, this building has cost more than was originally anticipated. It is necessary that it should be completed without further delay, as much inconvenience is experienced from the want of it. The completion of the sewer is a very important object. A portion of the city of Brooklyn, in the vicinity of the yard, is drained by a public sewer which discharges upon the flats belonging to the government. The work now in progress is to continue the city sewer through the yard to the channel, and thus relieve those employed and living in the yard from the foul and unwholesome atmosphere caused by the discharge of filth upon the flats in the yard. The water-front of this yard is in a dilapidated condition, requiring frequent repairs; and it is proposed to face the front with a permanent stone wall. Appropriations have been made towards this object, and the work is gradually progressing. An estimate is submitted for its continuation. A small amount is asked for filling in the old timber-pond, which is very desirable, as this improvement will add to the health of those in its vicinity. The amount asked for dredging channels will be required to keep the dredging machine employed in cleaning out around the wharves and entrance to the dry dock.

The soil around the dry dock is such that, in wet weather, the hauling of timber and other heavy articles is difficult and expensive; it is therefore proposed to put down a permanent paving, and this object is deemed an important one. The legislature of the State of New York having at its last session passed an act granting to the United States jurisdiction over the lands recently purchased as an addition to the yard, an estimate is submitted for commencing the filling necessary to render these lands useful for naval purposes, and upon which it is contemplated to erect marine barracks forthwith. A small amount is asked for the better protection of some of the buildings against lightning; the *propriety of this* appropriation is apparent. The officers'

houses are now supplied with water from the reservoir by means of a horse-cart, which is inconvenient and expensive; an amount is asked for laying pipes to these buildings, that they may be furnished at all times with a proper supply of water. Navy street, upon which the yard bounds, has been filled up, since the wall was built, to such an extent as to leave the coping but a few feet above the street, and there is nothing to prevent depredations by evil-disposed persons scaling the wall and effecting damage to the public property. An amount is asked for placing an iron railing along this wall for the more effectual protection of the yard. The amount asked for repairs of all kinds is such as will be required to meet the necessary expense of the usual annual repairs.

PHILADELPHIA.

During the past fiscal year the extension of ship-house F, and the sheds for covering the floating-dock railways, have been completed; the amount expended upon these objects is $10,390 65.

The dredging machine has been employed near the basin for the floating dock, and the depth of water now obtained will admit of the use of the floating dock in raising frigates. The fine gravel excavated by this process has afforded an abundant supply of the best material for grading the yard. The walls of the new steaming house for steaming plank are up, and the roof on ready for slating. The paving has been commenced, and extended about two-thirds the distance from the entrance gate to the wharf. Pipes have been extended for furnishing a more abundant supply of water, and for lighting the yard with gas. The usual necessary repairs have been made; and the amount expended on all the above objects during the fiscal year ending 30th June, 1853, is $34,423 08.

Plans and estimates are submitted for the next fiscal year for the following objects, viz: Furnace for heating mast-hoops; steam-stove for boat shed; addition to old steam-house; extension of wharf No. 4; addition to engine-house, and for repairs of all kinds—amounting to the sum of $41,301.

A suitable furnace for heating mast-hoops is necessary, as such work is now done by making a fire in the open yard, which is attended with danger to the surrounding buildings. A small stove for steaming boat boards is much wanted, as such work has now to be done in the large steam-box, and is attended with great expense and inconvenience. At this yard the amount of store room is quite limited, which it is proposed to increase by adding a story to the old steam-house. An estimate is submitted for extending pier No. 4, which will add greatly to the protection of and facilities for working the floating dock. The addition to the engine-house is for the purpose of providing a convenient and suitable room for the safe keeping of tools, which is much wanted. The amount asked for repairs of all kinds will be necessary for the preservation of the buildings in the yard, and for caulking and taking proper care of the floating dock.

In my last report the enlargement of the yard was earnestly recommended, which I now repeat; the floating dock, basin, and railways,

occupy a large portion of the yard, leaving but little space for other works, and none for the marine barracks. It is believed that at this time additional lands on the south side of the yard may be purchased at a reasonable price; but if the subject be deferred until costly improvements are erected on these lands, it may be difficult, if possible, to purchase them without paying exorbitant prices. I therefore recommend that prompt measures be taken to secure the refusal of these lands, and that an appropriation be asked for their purchase.

WASHINGTON.

At this yard, the only work completed during the past year is the copper-rolling mill. This establishment has been constructed in a permanent manner, the machinery is well arranged, and the mill will be capable of manufacturing all the sheet and bolt copper required for the service. The amount expended during the fiscal year ending 30th June, 1853, is $14,895 33½.

Most of the machinery authorized for the machine-shop has been completed and put in operation; about one-third of the work in filling up the timber-pond has been done; the dredging machine has been usefully employed deepening the water along the slips and wharves, and the earth raised has been used towards filling up the pond. About three-fourths of the foundation-piles for the gun-carriage shop and saw-mill have been driven; all the timber and lumber are procured; the window and door frames are made, and the machinery ready for setting up. The exterior of the ordnance building, engine-room, and stack and foundation for the driving-engine, have all been completed. The interior division walls are up, the columns for support of floor and gearing of machinery are made and being placed in position, and part of the upper floor is laid.

Arrangements are making for warming the building by the exhaust steam from the engine; which, it is believed, will render it comfortable for the workmen, while it will not be exposed to danger from fire.

A coffer-dam has been constructed to exclude the water from the space selected as the site for the marine railway. The water has been pumped out, and the foundation-piles, for the support of the rails, have been driven.

Part of the stone for the ways in the ship-house has been delivered; and about one-half of the castings for the tram-plates, and all the truck-wheels, are made.

Such repairs have been made to the existing improvements as were necessary for their protection and preservation; and the amount expended during the year, for improvements and repairs, is $117,166 03.

Plans and estimates are submitted, for the next fiscal year, for the following objects, viz: Completion of saw-mill, ordnance building, and marine railway; extending boiler-shop; converting old ordnance to machine-shop; quay wall; removing shears; gas-pipes, fixtures, and gas; and for repairs of all kinds—amounting to $175,100.

The cost of the gun-carriage shop and saw-mill will exceed the amount of the original estimate, in consequence of the unexpected diffi-

culties in securing a proper foundation. Piles of great length were required, and the driving of them has been very expensive.

The building is an important one, and it is desirable that funds should be provided that it may be urged to completion without delay. The ordnance building, for which an appropriation is asked, is now near completion and is much wanted. All the operations of the Ordnance department will be performed in this building, thus separating these works from the other departments of the yard. The cost of this building will exceed the original estimate, owing, principally, to the great rise in the price of materials and labor. It is, however, very important that it should be completed as soon as practicable. An additional sum is required for the completion of the marine railway. This work is well advanced, and when finished will be a valuable acquisition to the yard—furnishing facilities for hauling up small steamers for repairs. Appropriations have been made for extending the boiler-shop and converting old ordnance-shop to a machine-shop. It is now proposed to arrange the plan so as to afford greater facilities and convenience for the performance of an increased amount of work. The amounts asked for these works are among the most important items submitted. The wharves at this yard are of wood, and in a state of decay. It is proposed to face them with permanent stone walls, and the item for that object is much needed. The present masting shears are inconveniently near the experimental battery—the operations of one of them interfering with those of the other. A small amount is, therefore, asked to remove them to a more suitable position.

The city gas company being about to extend their pipes to the Navy Yard, an estimate is submitted for introducing the gas into the yard. The amount submitted for repairs of all kinds will be necessary for such repairs upon existing buildings as are requisite for their preservation and the protection of the public property contained therein. The present limits of this yard are insufficient for the operations now carried on here. The shops are crowded together, badly ventilated, and, should fire occur in one of them, the others would be in great danger of being consumed. It is believed that at this time property in the neighborhood can be purchased on reasonable terms, and an estimate is submitted for that purpose.

NORFOLK.

The wharf on the north side of the timber-dock, and the dredging machine, have been completed during the past year; the dredge has been put in operation and proves a valuable acquisition to the yard. On these objects there has been expended the sum of $13,192 13.

The brick saw-shed, and house for burnetizing timber, has been so far advanced towards completion as to admit of the erection and use of the burnetizing apparatus; a quantity of lumber for building purposes has been subjected to the process, which it is believed, from actual tests, will add greatly to its durability. This establishment is placed in charge of Mr. James Jarvis, the inspecter of timber, who is conducting a series of experiments and observations, to ascertain the best season of the year for cutting timber, and, if possible, to discover

the most effective means of guarding it against decay, and protecting it from the ravages of the marine worm. The experiments have been made with great care thus far, and when completed, it is expected that the information obtained on this important subject will prove of great benefit to the service and the country.

Much credit is due to Mr. Jarvis for the great zeal and energy with which he entered upon this duty, and the untiring industry with which he has pursued this laborious investigation. His reports already made would be interesting and useful to the public, if published by Congress.

Store-house No. 14 has been much delayed by the failure of the contractor to furnish timber in time; the walls are up to the second story. The culvert for draining the lands adjoining the navy yard has been nearly completed, and is now effecting the object for which it was intended. A large amount of dredging has been done, by which the channel has been materially deepened and improved, and the earth obtained has been usefully disposed of in filling up low places in the yard. The walls of the magazine have been carried up to the proper height, and the centres for the arches are all prepared. The necessary repairs have been made to the existing works; and the amount expended during the fiscal year ending 30th June, 1853, is $67,516 88.

Plans and estimates are submitted for the next fiscal year for the following objects, viz: Brick saw-sheds; completing store-house, No. 14; machinery, &c., for foundery; sheds and machinery for saw-mill; setting up engine, boilers and machinery; culvert; continuation of quay walls; dredging channels, reservoir; pointing yard wall; commencing foundry; and for repairs of all kinds—amounting to the sum of $196,100.

It is proposed to establish at this station a complete foundry and machine-shop, which will enable the government to supply all the demands of the service at this yard, either in manufacture or repairs of machinery, marine engines, &c., and relieve it from a dependence upon expensive and dilatory outside resources. A plan of such an establishment has been prepared, and some of the necessary buildings are already erected, although at present occupied for different purposes.

It is in contemplation to remove some of the mechanical departments to more convenient locations, and appropriate the shops now occupied by them to purposes connected with the foundry and machine-shops. The amounts for the brick saw-sheds, machinery, &c., for foundry, sheds and machinery for saw-mill, setting up engines, boilers and machinery, and for the foundry, are submitted for making the necessary changes in the shops and for commencing this highly important and necessary improvement, and an appropriation is most earnestly desired. Store-house No. 14 has been much delayed by the failure of the contractors to furnish timber at the proper time. There being great want of store room for provisions, it was deemed judicious to provide a cellar under this building for that purpose; this modification of the plan, together with the increased price of labor, has caused the building to cost more than the original estimate, and an additional appropriation will be required for its completion. The culvert estimated for is for draining the saw-pits, and is necessary to render them available. The amount asked for *continuation of quay walls* is much wanted; the present available

water-front is entirely inadequate for the accommodation of the large number of vessels which repair and fit out at this important yard. The estimate for dredging is very necessary, as the amount of deposits along the wharves and docks is such as to require the frequent operation of the dredging machine. The rain-water reservoir is an important item; the demands of the yard for an increased supply of pure water for the shipping and for general use, as well as the want of additional resources in case of fire, render it highly necessary that an increased number of reservoirs should be constructed. The boundary wall enclosing the yard has been many years without repairs, and now requires pointing, for which an estimate is submitted. The amount asked for repairs of all kinds is such as will defray the usual annual expenses for that object.

PENSACOLA.

At this yard the guard-house No. 32, at west gate, lime-house No. 23, and the shell-house, have been completed during the past year; and the amount expended during the fiscal year ending 30th June, 1853, is $4,398 10.

On the 30th October, 1852, the amount heretofore appropriated for the permanent wharf having been expended, the work was stopped until the first of April last, when operations were resumed and the work progressed until suspended in consequence of the late fatal sickness which prevailed there. Rail-tracks have been put down in various parts of the yard, and add greatly to the facilities for moving heavy articles. The smith and machine-shop building has been completed, and a portion of the machinery procured and put in operation. The walls of the paint-shop and cooperage are up, and the building is completed, except the roof. Some of the ponds in the vicinity of the yard have been drained, and others filled up, which is conducive to the health of those living in the neighborhood. The requisite repairs have been put upon the different buildings and other improvements; and the amount expended for these objects during the fiscal year ending 30th June, 1853, is $111,368 25.

Estimates are submitted for the next fiscal year for the following objects, viz: For the continuation of the permanent wharf and deep basin; for raising the walls of the floating-dock basin; for removing the old sunken caisson; extension of rail-tracks; putting up steam-engine, blast-pipes, &c., for smith and machine-shop; to finish paint-shop and cooperage, guard-house, shell-house, and wall around the same; guard-house, lightning conductors, water-pipes, drainage of ponds; and for repairs of all kinds—amounting to the sum of $240,320.

In consequence of the necessary suspension of the work on the permanent wharf, for want of funds, the cost of this work will be increased. The amount now asked for will, according to the report of the engineer, be sufficient to complete the permanent wharf and pave the space within the front and the flanking walls, and also the area extending back to the coping of the basin. This work has been a long time—much too long—in progress, and it is desirable that it should be completed as soon as possible. A portion of the materials for the deep basin have been procured, and it is desirable that the work should be constructed

in connexion with the permanent wharf; it is an important work, as it will furnish a safe and convenient place for mooring and working the floating dock. The estimate submitted for raising the walls of the floating-dock basin is necessary to bring them up to the level of the coping of the permanent wharf, and the surface of the yard around them.

Many years since an attempt was made to build a wharf by means of a caisson, which now lies sunk near the permanent wharf, and is a great obstacle to the use of that improvement. It is believed that this inconvenience can be removed, and an estimate is submitted for that purpose. A small appropriation is asked for extending the rail-tracks. The soil of this yard is a clean sand, which renders the hauling of heavy articles very difficult and expensive, and the laying down of these rail-tracks greatly facilitates the transportation of building materials and stores. The steam-engine and other machinery for the smith and machine-shop have been procured, and are ready for setting up; to do which an additional appropriation will be necessary. The cost of the paint-shop and cooperage has exceeded the original estimate, in consequence of unexpected expenses incurred in preparing the foundation, and the increased price of labor. This building is wanted, and it is desirable that it should be completed without delay. A small amount will be necessary to cover the expense of completing guard and shell-houses, and for building a wall around the latter. This building and its contents are exposed to danger from fire, and it is requisite that they should be protected, as an explosion of the shells might be productive of great injury to the buildings in the vicinity. There being no receiving-ship at this yard, great inconvenience is experienced from the want of a proper place for the security and safe confinement of persons charged with crimes or under sentence of courts-martial. To remedy this difficulty, it is proposed to erect a suitable guard-house, where such unruly and troublesome persons may be kept separate from the orderly and well disposed. An estimate is submitted for providing more effectual protection to the buildings against lightning. The frequency of lightning-storms in this vicinity renders this an important subject, and it is desirable that the most approved guards should be applied to the buildings. A line of water-pipes from one of the large cisterns to the face of the wharf is very necessary for the watering of ships. The drainage of ponds on the public lands in the vicinity of the yard is an important improvement. The stagnant water in these ponds is supposed to have been the cause of much sickness, as, since their partial drainage and removal, the health of the persons living near them has been much improved. It is therefore important that the drains should be kept open, and others constructed to render the drainage more perfect and complete.

The amount asked for repairs of all kinds will be necessary to keep the buildings and other improvements in a proper state of preservation.

MEMPHIS.

There has been expended during the past fiscal year, upon the hemp-house and smith shop, the sum of $6,110 26.

These buildings are now completed and in use. The other improvements, upon which expenditures have been made during the past year, are excavation and embankment; tarring-house, ropewalk, store-house, pavements, drains, &c.; cisterns for ropewalk, and repairs of all kinds. Much delay has been caused, in the construction of the works of this yard, by the failure of contractors to furnish building materials, and by the difficulty of procuring suitable workmen.

Plans and estimates are submitted for the next fiscal year for the following objects, viz: Excavation and embankment; pavements, drains, &c.; smith-shop; store-house; pavement along east boundary; powder magazine; gas-pipes and lamp-posts; re-mounting battery, and for repairs of all kinds—amounting to the sum of $65,000.

This sum is necessary for the completion of the buildings in progress, and for their proper care and preservation.

SACKETT'S HARBOR.

The operations at this station, during the past year, have been confined to the preservation and repair of the existing works. Recent storms upon the lake have injured the pier and ship-house. For their repair and protection, and for repairs of all kinds, an estimate is submitted for the next fiscal year, amounting to the sum of $5,050.

CALIFORNIA.

The act of Congress approved 31st August, 1852, authorized and directed the Secretary of the Navy to select a site for a navy yard and naval depôt in the Bay of San Francisco, in California, or neighboring waters; and for the purchase of the site, defraying the expenses of surveys and examinations, and for the erection of certain works therein enumerated, the sum of $100,000 was appropriated. This sum was exhausted in defraying the expenses of the commission appointed to make the necessary surveys, and in purchasing the lands recommended by the commission as the most eligible site for the purpose. At the last session of Congress an estimate was submitted for a foundry, machine-shop, smith-shop, boiler-shop, engine-house, and pattern-shop; carpenters' shop, store-house, wharf, steam-engine, and machinery, (including transportation of the same,) amounting to $974,851. Of this sum $100,000 only were appropriated, for the blacksmiths' shop, carpenters' shop, store-house, and wharf. As I understand, jurisdiction over the lands selected and purchased for the site of this yard has not yet been ceded to the United States by the legislature of California, no expenditure for improvement has yet been directed.

DRY DOCKS.

The floating dock, basin, and railway at Portsmouth, New Hampshire, are now completed and in condition for use. A small amount is included, in the item for repairs of all kinds, for caulking and painting the dock.

The stone dry dock at Boston has been in use twenty years, and the

stone-work remains in fine condition; the gates being of wood now require some repairs, and for that purpose an amount is embraced in the sum asked for repairs of all kinds.

At the stone dry dock at New York, during the past year, the immense pressure of the springs at the foundation has caused some of the joints to open, and a slight movement in some of the mitre-sills. These joints have been caulked, and the leaks stopped, without interrupting the use of the dock, which has been pretty constantly occupied by vessels undergoing repairs.

The floating dock, basin, and railways, at Philadelphia, have been in use during the past year, and are now in good condition. This dock being of wood, will necessarily require some repairs, such as caulking and painting; and for this purpose an amount is asked under the head of repairs of all kinds.

The stone dry dock at Norfolk, which has been in use more than twenty years, is now in perfect order, and is almost constantly occupied by vessels under repairs.

The floating dock, basin, and railway, at the Pensacola yard, having been reported as completed and ready for trial, a board of officers was appointed to test them; the result of this experiment has been communicated in a report which has already been laid before the department.

Under the contract for the construction of a floating dock for California, the contractors framed and fitted all their work at New York and shipped it to California to be set up for use. By the last report from the supervising engineer, it appears that eight of the sections are very nearly completed, one of them being launched and the others nearly ready for launching; the ninth section is put up and about half the planking done; the tenth and last section will be set up as soon as the others are launched and room provided for the purpose. The contractors are now constructing a pier for the protection and safe working of the dock; and, as soon as this can be completed, the sections will all be launched and put in operation.

NAVAL ASYLUM, PHILADELPHIA.

This institution, I am gratified to believe, is accomplishing, to a great extent, the purposes for which it was originally established and designed, affording, as it does, a comfortable and "permanent asylum to disabled and decrepid navy officers, seamen, and marines." Salutary regulations have been established by the department for its government, and the officers to whom their execution has been intrusted have performed their several duties with credit to themselves and advantage to the institution. The number of inmates at this time in the building, including the officers and attendants, is one hundred and eighty-six. The sum expended for the support of the institution for the fiscal year ending 30th June last, amounted to $43,581 22, and was charged, respectively, to the appropriations for the hospital fund, pay of the navy, and contingent. For the repairs of the hospital and asylum buildings, embracing the improvements of the public grounds thereto attached, the sum of $14,450 82 has been expended, and was charged to the appropriation for navy hospitals and asylum. Under the law and ex-

isting regulations, it is apprehended that the present building will very soon become inadequate to the comfortable accommodation of the beneficiaries admitted to its privileges and immunities; and unless the suggestions submitted in my previous reports—commending its removal, or the total abolishment of the whole system, substituting therefor a liberal pension, according to rank and length of service in the navy—should be adopted, I would recommend, for the further accommodation of those worn-out, disabled, and decrepid tars who have so often and so gallantly defended their country's flag, the erection of a similar institution somewhere on the sea-shore, where the old sailor would be in his natural element, enjoying not only the benefit of a more salubrious air, but deriving also all the advantages presented by the contiguity of the sea itself. It has been the policy of the government, in another branch of the public service, to erect, at different and distant points, military asylums; and the utility of such policy applies with equal force to the navy as to the army. By the erection of another similar institution to that at Philadelphia, the beneficiaries—those worthy recipients of their country's bounty—would be removed, in a great degree, from the temptations to insubordination and a disregard to discipline and good order, which naturally surround them in a large and populous city.

TIMBER AGENCIES.

The timber agents appointed by the department for the protection of live-oak and other valuable naval timber, growing upon the lands of the United States in some of the southern States, have, in the discharge of their difficult and responsible duties, effected much good by driving depredators from the scene of their operations, as well as by the seizure of large quantities of live oak, red cedar, and long-leaf yellow pine mast and spar-timber, which had been cut upon the public lands, not only for purposes of trade and traffic at home, but chiefly with a view of transporting it to foreign countries, and thereby contributing to the building up of foreign navies.

From the various reports of the agents, it has been further developed, that by their energy and perseverance the depredations committed upon the public timber in some of their districts have been greatly checked, and, by a continued watchfulness on their part, it is believed that the system of trespass, which has heretofore been conducted with so much success, will very soon be entirely suppressed.

I transmit also a list of contracts made under the cognizance of this bureau, with an abstract of all offers received for furnishing supplies since the last annual report, in conformity with the act of Congress approved March 3, 1843.

I have the honor to be, very respectfully, your obedient servant,

JOS. SMITH.

Hon. JAMES C. DOBBIN,
Secretary of the Navy.

Y. & D.—A.

General estimate from the Bureau of Yards and Docks for the year ending June 30, 1855, in addition to the balances remaining unexpended July 1, 1854.

Object.	Estimated for the year ending 30th June, 1855.	Estimated for the year ending 30th June, 1854.
1. For the pay of commission, warrant and petty officers, (see paper Y. & D.—No. 5)	$274,976 00	$268 532 00
2. For the pay of superintendents, naval constructors, and all the civil establishments at the several yards and stations, (see paper Y. & D.—No. 5)	115,350 00	108,650 00
3. For improvements and necessary repairs at yards and stations, (see paper Y. & D.—No. 4)	1,425,261 00	2,197,934 05
4. For hospital buildings and their dependencies, the naval asylum, and for magazines, (see papers Y. & D.—Nos. 6 and 7)	182,025 00	73,728 93
5. For contingent expenses that may accrue during the year for the following purposes, viz: For the freight and transportation of materials and stores for yards and docks; for printing and stationery; for books, maps, models, and drawings: for purchase and repair of fire engines; for machinery of every description, and the patent right to use the same; for the repair of steam engines and attendance on the same in navy yards; for the purchase and maintenance of horses and oxen and driving teams; for carts, timber wheels, and workmen's tools of every description, and repairing the same; for postage of letters on public service; for furniture for government houses; for coals and other fuel; for candles and oil for use of navy yards and shore stations; for cleaning and clearing up yards; for flags, awnings, and packing-boxes; for watchmen, and for incidental labor at navy yards, not applicable to any other appropriation	366,860 00	335,500 00
Total	2,364,472 00	2,984,344 98
Submitted for Philadelphia and Washington yards	125,000 00	.....

JOS. SMITH.

BUREAU OF YARDS AND DOCKS,
October 17, 1853.

Y. & D.—No. 1.

Estimate of the expenses of the Bureau of Yards and Docks for the year ending June 30, 1855, per act of March 3, 1853.

For compensation to the chief of the bureau	$3,500
For chief clerk, 4th class	1,800
For one clerk, 2d class	1,200
For one clerk, 2d class	1,200
For one clerk, 2d class	1,200
For one clerk, 1st class	900
For one messenger	700
For one civil engineer	2,000
For one draughtsman, 2d class	1,200
	13,700
Contingent expenses of bureau, viz:	
For labor	$360
For stationery, books, plans, drawings, and incidental items	800
	1,160

Bureau of Yards and Docks,
October 17, 1853.

Y. & D.—No. 2.

Estimate of the pay of the officers attached to the recruiting stations for the year ending June 30, 1855, if no alteration is made in the number of stations.

Rank.	Boston.	New York.	Philadelphia.	Baltimore.	Norfolk.	New Orleans.	Total.	Aggregate amount.
Commanders	1	1	1	1	1	1	6	$12,600
Lieutenants	1	1	1	1	1	1	6	9,000
Surgeons	1	1	1	1	1	1	6	10,500
Passed midshipmen	1	1	1	1	1	1	6	4,500
Total	4	4	4	4	4	4	24	36,600

Bureau of Yards and Docks,
October 17, 1853.

Y. & D.—No. 3.

Estimate of the pay of officers and others at navy yards and stations for the fiscal year ending June 30, 1855.

PORTSMOUTH, N. H.

No.	Officers, &c.	Pay.	Aggregate.
	Naval.		
1	Captain	$3,500	
1	Commander	2,100	
1	Lieutenant	1,500	
1	Master	1,000	
1	Surgeon	1,800	
1	Purser	2,000	
1	Chaplain	1,500	
2	Passed midshipmen, at $750 each	1,500	
1	Boatswain	700	
1	Gunner	700	
1	Carpenter	700	
1	Sailmaker	700	
1	Purser's assistant, when performing duties of clerk	750	
1	Steward (surgeon's)	288	
			$18 738
	Ordinary.		
1	Passed midshipman	750	
1	Carpenter's mate	228	
11	Seamen, at $180 each	1,980	
6	Ordinary seamen, at $144 each	864	
			3,822
	Civil.		
1	Storekeeper	1,400	
1	Naval constructor	2,300	
1	Civil engineer	1,500	
1	Superintendent of floating dock and machinery	1,000	
1	Foreman and inspector of timber	900	
1	Clerk of the yard	900	
1	Clerk to the commandant	1,200	
1	Clerk to the storekeeper	900	
1	Clerk to the naval constructor	650	
1	Porter	360	
			11,110
	Total		33,670

BOSTON.

	Naval.		
1	Captain	3,500	
1	Commander	2,100	
2	Lieutenants, at $1,500 each	3,000	
1	Master	1,000	
1	Surgeon	1,800	
1	Purser	2,500	

Y. & D.—No. 3—Continued.

BOSTON—Continued.

No.	Officers, &c.	Pay.	Aggregate.
1	Chaplain	$1,500	
2	Passed midshipmen, at $750 each	1,500	
1	Boatswain	800	
1	Gunner	800	
1	Carpenter	800	
1	Sailmaker	800	
1	Gunner (keeper of magazine)	800	
1	Clerk to purser	750	
1	Steward (purser's)	360	
1	Steward (surgeon's)	360	
			$22,370
	Hospital.		
1	Surgeon	2,000	
1	Assistant surgeon	1,150	
1	Steward	480	
1	Matron	204	
2	Nurses, at $180 each	360	
1	Cook	204	
1	Washer	144	
3	Watchmen, at $240 each	720	
			5,262
	Civil.		
1	Storekeeper	1,700	
1	Naval constructor	2,300	
1	Civil engineer	1,800	
1	Measurer and inspector of timber	1,050	
1	Clerk of the yard	1,200	
1	Clerk to the commandant	1,200	
1	Clerk (2d) to the commandant	960	
1	Clerk to the storekeeper	1,200	
1	Clerk (2d) to the storekeeper	900	
1	Clerk (3d) to the storekeeper	750	
1	Clerk to the naval constructor	650	
1	Porter	360	
			14,070
	Total		41,702
	NOTE.—The surgeon of the yard is to be required to attend the marines also.		

NEW YORK.

	Naval.		
1	Captain	3,500	
1	Commander	2,100	
2	Lieutenants, at $1,500 each	3,000	
1	Master	1,000	
1	Surgeon	1,800	

Y. & D.—No. 3—Continued.

NEW YORK—Continued.

No.	Officers, &c.	Pay.	Aggregate.
1	Purser	$2,500	
1	Chaplain	1,500	
2	Passed midshipmen, at $750 each	1,500	
1	Boatswain	800	
1	Gunner	800	
1	Carpenter	800	
1	Sailmaker	800	
1	Gunner (keeper of magazine)	800	
1	Clerk to the purser	750	
1	Steward (purser's)	360	
1	Steward (surgeon's)	360	
			$22,370
	Hospital.		
1	Surgeon	2,250	
1	Surgeon at laboratory	2,250	
2	Assistant surgeons, at $1,150 each	2,300	
1	Apothecary	420	
1	Hospital steward	480	
1	Matron	204	
4	Nurses, at $180 each	720	
2	Cooks, at $168 each	336	
2	Washers, at $144 each	288	
1	Porter	168	
1	Gatekeeper	360	
1	Gardener	276	
1	Assistant at laboratory	120	
2	Boys, at $120 each	240	
			10,412
	Civil.		
1	Storekeeper	1,700	
1	Naval constructor	2,300	
1	Civil engineer	2,400	
1	Inspector and measurer of timber	1,050	
1	Clerk of the yard	1,200	
1	Clerk to the commandant	1,200	
1	Clerk (2d) to the commandant	960	
1	Clerk to the storekeeper	1,200	
1	Clerk (2d) to the storekeeper	900	
1	Clerk (3d) to the storekeeper	750	
1	Clerk to the naval constructor	650	
1	Porter	360	
			14,670
	Total		47,452
	NOTE.—The surgeon of the yard is to be required to attend the marines also.		

Y. & D.—No. 3—Continued.

PHILADELPHIA.

No.	Officers, &c.	Pay.	Aggregate.
	Naval.		
1	Captain	$3,500	
1	Commander	2,100	
1	Lieutenant	1,500	
1	Master	1,000	
1	Surgeon	1,800	
1	Purser	2,000	
1	Chaplain	1,500	
1	Passed midshipman	750	
1	Boatswain	700	
1	Gunner	700	
1	Carpenter	700	
1	Sailmaker	700	
1	Purser's assistant, when performing duties of clerk also	750	
1	Steward, (surgeon's)	288	
			$17,988
	Naval asylum and hospital.		
1	Captain	3,500	
1	Commander	2,100	
1	Lieutenant	1,500	
1	Surgeon	2,250	
1	Passed assistant surgeon	1,150	
1	Chaplain	1,500	
1	Secretary	900	
1	Steward to the asylum	360	
1	Steward (surgeon's)	480	
1	Steward (purser's)	480	
1	Matron	204	
1	Nurse	180	
2	Cooks, at $168 each	336	
1	Assistant cook	108	
6	Laundresses and nurses, at $108 each	648	
			15,696
	Civil.		
1	Storekeeper	1,250	
1	Naval constructor	2,300	
1	Civil engineer	2,350	
1	Superintendent of floating dock and machinery	1,000	
1	Measurer and inspector of timber	900	
1	Clerk of the yard	900	
1	Clerk to the commandant	1,200	
1	Clerk to the storekeeper	900	
1	Clerk to the naval constructor	650	
1	Porter	360	
			11,810
	Total		45,494

NOTE.—The surgeon of the yard is to attend to the marines and the receiving vessel.

Y. & D.—No. 3—Continued.

WASHINGTON.

No.	Officers, &c.	Pay.	Aggregate.
	Naval.		
1	Captain	$3,500	
1	Commander	2,100	
1	Lieutenant	1,500	
1	Master	1,000	
1	Surgeon	1,800	
1	Purser	2,000	
1	Chaplain	1,500	
2	Passed midshipmen, at $750 each	1,500	
1	Boatswain	700	
1	Gunner	700	
1	Carpenter	700	
1	Purser's assistant, when performing the duties of clerk also.	750	
1	Steward (surgeon's)	360	
			$18,110
	Ordinary.		
1	Passed midshipman	750	
1	Boatswain's mate	228	
1	Carpenter's mate	228	
1	Steward	288	
10	Ordinary seamen, at $120 each	1,200	
			2,694
	Civil.		
1	Storekeeper	1,700	
1	Civil engineer	1,800	
1	Inspector and measurer of timber	900	
1	Clerk of the yard	1,200	
1	Clerk to the commandant	1,200	
1	Clerk (2d) to the commandant	960	
1	Clerk to the storekeeper	1,050	
1	Clerk (2d) to the storekeeper	900	
1	Steam engineer and machinist	2,000	
1	Master tank and caboose maker	1,250	
1	Master chain-cable and anchor maker	1,250	
1	Pyrotechnist	1,500	
1	Keeper of the magazine	480	
1	Porter	360	
			16,550
	Total		37,354

NOTE.—The surgeon of the yard is to be required to attend the marines also.

Y. & D.—No. 3—Continued.

NORFOLK.

No.	Officers, &c.	Pay.	Aggregate.
	Naval.		
1	Captain	$3,500	
1	Commander	2,100	
2	Lieutenants, at $1,500 each	3,000	
2	Masters, at $1,000 each	2,000	
1	Surgeon	1,800	
1	Purser	2,500	
1	Chaplain	1,500	
2	Passed midshipmen, at $750 each	1,500	
2	Boatswains, at $800 each	1,600	
2	Gunners, at $800 each	1,600	
2	Carpenters, at $800 each	1,600	
1	Sailmaker	800	
1	Clerk to the purser	750	
1	Steward (purser's)	360	
1	Steward (surgeon's)	360	
			$24,97
	Hospital.		
1	Surgeon	2,000	
1	Passed assistant surgeon	1,150	
1	Assistant surgeon	950	
1	Steward	480	
1	Matron	204	
3	Nurses, at $180 each	540	
2	Cooks, at $168 each	336	
2	Washers, at $144 each	288	
4	Boatmen, at $120 each	480	
1	Boy	120	
			6,54
	Civil.		
1	Storekeeper	1,700	
1	Naval constructor	2,300	
1	Civil engineer	1,800	
1	Inspector and measurer of timber	1,200	
1	Clerk of the yard	1,200	
1	Clerk to the commandant	1,200	
1	Clerk (2d) to the commandant	960	
1	Clerk to the storekeeper	1,200	
1	Clerk (2d) to the storekeeper	900	
1	Clerk (3d) to the storekeeper	750	
1	Clerk to the naval constructor	650	
1	Keeper of the magazine	480	
1	Porter	360	
			14,70
	Total		46,21

NOTE.—The surgeon of the yard is to be required to attend the marines also.

Y & D.—No. 3—Continued.

PENSACOLA.

No.	Officers, &c.	Pay.	Aggregate.
	Naval.		
1	Captain	$3,500	
1	Commander	2,100	
2	Lieutenants, at $1,500 each	3,000	
1	Master	1,000	
1	Surgeon	1,800	
1	Purser	2,500	
1	Chaplain	1,500	
2	Passed midshipmen, at $750 each	1,500	
1	Boatswain	800	
1	Gunner	800	
1	Carpenter	800	
1	Sailmaker	800	
1	Purser's assistant, when performing duties of clerk also	750	
1	Steward (surgeon's)	360	
1	Steward (purser's)	360	
			$21,507
	Ordinary.		
1	Lieutenant	1,500	
1	Carpenter's mate	228	
2	Boatswain's mates, at $228 each	456	
1	Cook	228	
10	Seamen, at $144 each	1,440	
60	Ordinary seamen, at $120 each	7,200	
			11,052
	Hospital.		
1	Surgeon	2,250	
2	Assistant surgeons, at $950 each	1,900	
1	Steward	480	
1	Matron	250	
3	Nurses, at $180 each	540	
2	Cooks, at $168 each	336	
3	Washers, at $144 each	432	
1	Baker	420	
1	Carter	144	
1	Messenger	168	
3	Watchmen, at $360 each	1,080	
1	Gardener	274	
			8,274
	Civil.		
1	Storekeeper	1,700	
1	Naval constructor	2,300	
1	Civil engineer	3,000	
1	Inspector and measurer of timber	900	
1	Superintendent of floating dock and machinery	1,000	
1	Clerk of the yard	1,200	
1	Clerk to the commandant	1,200	
1	Clerk (2d) to the commandant	960	
1	Clerk *to the storekeeper*	1,200	

Y. & D.—No. 3—Continued.

PENSACOLA—Continued.

No.	Officers, &c.	Pay.	Aggregate.
1	Clerk (2d) to the storekeeper	$900	
1	Clerk (3d) to the storekeeper	750	
1	Porter	360	
			$15,470
	Total		56,366
	NOTE.—The surgeon of the yard is to attend the marines near the yard, and such persons in the yard as the commandant may direct.		

MEMPHIS.

	Naval.		
1	Captain	3,500	
1	Lieutenant	1,500	
1	Master	1,000	
1	Surgeon	1,800	
1	Purser	2,000	
1	Passed midshipman	750	
1	Purser's assistant, when performing duties of clerk also	750	
			11,300
	Civil.		
1	Storekeeper	1,250	
1	Civil engineer	2,500	
1	Superintendent of ropewalk	1,500	
1	Clerk of the yard	900	
1	Clerk to the commandant	900	
1	Clerk to the storekeeper	650	
1	Porter	360	
			8,060
	Total		19,360

SACKETT'S HARBOR.

	Naval.		
1	Commander	2,100	
1	Master	1,000	
	Total		3,100

Y. & D.—No. 3—Continued.

SAN FRANCISCO.

No.	Officers, &c.	Pay.	Aggregate.
	Naval.		
1	Captain	$3,500	
1	Commander	2,100	
1	Lieutenant	1,500	
1	Master	1,000	
1	Surgeon	1,800	
1	Purser	2,000	
1	Passed midshipman	750	
1	Boatswain	700	
1	Purser's assistant, when performing duties of clerk also	750	
			$14,100
	Civil.		
1	Storekeeper	1,700	
1	Civil engineer	4,000	
1	Clerk of the yard	900	
1	Clerk to the commandant	900	
1	Clerk to the storekeeper	1,050	
1	Porter	360	
			8,910
	Total		23,010

RECAPITULATION.

Navy yards.	Naval.	Ordinary.	Hospital.	Civil.	Aggregate.
Portsmouth, N. H.	$18,738	$3,822		$11,110	$33,670
Boston	22,370		$5,262	14,070	41 702
New York	22,370		10,412	14,670	47,452
Philadelphia	17,988		15,696	11,810	45,494
Washington	18,110	2,694		16,550	37,354
Norfolk	24,970		6,548	14,700	46,218
Pensacola	21,570	11,052	8,274	15,470	56,366
Memphis	11,300			8,060	19,360
Sackett's Harbor	3,100				3,100
San Francisco	14,100			8,910	23,010
Total	174,616	17,568	46,192	115,350	353,726

Bureau of Yards and Docks, *October* 17, 1853.

Y. & D.—No. 3—Continued.

PENSACOLA—Continued.

No.	Officers, &c.	Pay.	Aggregate.
1	Clerk (2d) to the storekeeper	$900	
1	Clerk (3d) to the storekeeper	750	
1	Porter	360	
			$15,470
	Total		56,366
	NOTE.—The surgeon of the yard is to attend the marines near the yard, and such persons in the yard as the commandant may direct.		

MEMPHIS.

	Naval.		
1	Captain	3,500	
1	Lieutenant	1,500	
1	Master	1,000	
1	Surgeon	1,800	
1	Purser	2,000	
1	Passed midshipman	750	
1	Purser's assistant, when performing duties of clerk also	750	
			11,300
	Civil.		
1	Storekeeper	1,250	
1	Civil engineer	2,500	
1	Superintendent of ropewalk	1,500	
1	Clerk of the yard	900	
1	Clerk to the commandant	900	
1	Clerk to the storekeeper	650	
1	Porter	360	
			8,060
	Total		19,360

SACKETT'S HARBOR.

	Naval.		
1	Commander	2,100	
1	Master	1,000	
	Total		3,100

Y. & D.—No. 3—Continued.

SAN FRANCISCO.

No.	Officers, &c.	Pay.	Aggregate.
	Naval.		
1	Captain	$3,500	
1	Commander	2,100	
1	Lieutenant	1,500	
1	Master	1,000	
1	Surgeon	1,800	
1	Purser	2,000	
1	Passed midshipman	750	
1	Boatswain	700	
1	Purser's assistant, when performing duties of clerk also	750	
			$14,100
	Civil.		
1	Storekeeper	1,700	
1	Civil engineer	4,000	
1	Clerk of the yard	900	
1	Clerk to the commandant	900	
1	Clerk to the storekeeper	1,050	
1	Porter	360	
			8,910
	Total		23,010

RECAPITULATION.

Navy yards.	Naval.	Ordinary.	Hospital.	Civil.	Aggregate.
Portsmouth, N. H.	$18,738	$3,922		$11,110	$33,670
Boston	22,370		$5,262	14,070	41 702
New York	22,370		10,412	14,670	47,452
Philadelphia	17,988		15,696	11,810	45,494
Washington	18,110	2,694		16,550	37,354
Norfolk	24,970		6,548	14,700	46,218
Pensacola	21,570	11,052	8,274	15,470	56,366
Memphis	11,300			8,060	19,360
Sackett's Harbor	3,100				3,100
San Francisco	14,100			8,910	23,010
Total	174,616	17,568	46,192	115,350	353,726

Bureau of Yards and Docks, *October* 17, 1853.

Y. & D.—No. 5.

Statement showing the several sums which make up the amounts of the first and second items in the general estimate for the Bureau of Yards and Docks, marked Y. and D.—A, for the year ending 30th June, 1855.

FIRST ITEM.

For recruiting stations	$36,600
For naval branch at yards and stations	174,616
For hospital branch at yards and stations	46,192
For ordinary branch at yards and stations	17,568
	274,976

SECOND ITEM.

For the civil branch at all the yards and stations	$115,350

BUREAU OF YARDS AND DOCKS, *October* 17, 1853.

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Y. & D.—Nos. 6 and 7.

For Hospitals and Magazines.

HOSPITALS.

At Boston: For repairs of all kinds	$1,000
At New York: For surgeon's quarters; 500 iron tomb-stones; filling and grading grounds; piling and fencing boundary; and repairs of all kinds	21,800
At Philadelphia: For paving Shippen street; addition to wall on Shippen street; iron railing for wall; gas-pipes and gas; furniture and repairs of same; water-rent for 1855; and repairs of all kinds	11,670
At Norfolk: For repairs of all kinds	1,000
At Pensacola: For lightning conductors; and repairs of all kinds	4,581
Total for hospitals	40,051

Y. & D.— and 7—Continued.

MAGAZINES.

At Boston: For ordnance store; sheds in shot park; building at magazine; filling room in No. 15; and repairs of all kinds	$71,365
At New York: For addition to magazine; gunner's house; shed for hollow shot; granite shot beds; granite and iron beds for 100,000 shots; repairs and extension of shell-house; grading, paving, and repairing bridge and railway; and repairs of all kinds	43,609
At Washington: For ordnance works and platform for shot	10,900
At Norfolk: For foundation for shot and shells; shafting and machinery; completing magazine at Fort Norfolk; and repairs of sheds	16,100
Total for magazines	141,974

BUREAU OF YARDS AND DOCKS, *October* 17, 1853.

RECAPITULATION.

Civil.

Salaries	$13,700
Contingent	1,160

Navy.

Pay	274,976
Contingent	366,860

Special.

Improvements and repair of navy yards	1,425,261
Improvements and repair of hospitals	40,051
Pay of superintendents	115,350
Magazines	141,974

Y. & D.—No. 8.

List of contracts under the cognizance of the Bureau of Yards and Docks, made and received since the date of the last report: prepared in conformity with the act of Congress of March 3, 1843.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
Feb. 2	June 30	Ezra Eames	*Granite.*—2,500 cubic feet promiscuous split, suitable for foundations	$0 11 per foot	Portsmouth, N. H.
			36 posts, 20 feet long, 17 by 18 inches, 15 feet in length, hammer-dressed on all sides, ends square	38 00 each	
			36 blocks, 3 by 3 feet, 12 inches thick, hammer-dressed on top	3 00 do	
			1,700 feet, running measure, split in lengths from 10 to 12 feet, 9 by 24 inches, to be hammer-dressed on one edge	45 per foot.	
			2,156 feet dimension, beds, builds, and ends, and 988 superficial feet, to be hammer-dressed, 20 inches rise by 18 thick, to be according to plan furnished by engineer	60 00 do	
			47,280 cubic feet, split in courses of 18 inches rise, 2 feet in width, and from 3 to 6 feet in length	14 do	
			800 superficial feet, hammered, suitable for drains, cesspools, gutters, &c	37½ do	
July 9	June 30	Enoch Pinkham	286,000 hard-burnt bricks, merchantable	5 85 per M.	
			500 best quality fire bricks	100 00 do	
July 11	June 30	Charles Robinson, jr.	20,000 pounds Indian cornmeal	1 82 per 100 lbs.	
July 11	June 30	J. M. Mathes	1,000 bushels hard wood charcoal	15½ per bushel.	
			100 casks best quality lime	1 10 do	
			5 bushels hair	25 do	
			20 cords hard wood (one half hickory, one half maple)	6 90 per cord.	
July 12	June 30	L. D. Spaulding	500 pounds 1½-inch round iron, best American	4 per pound.	
			700 pounds 1-inch ..... do ..... do	4 do	
			100 pounds ½-inch ..... do ..... do	4 do	
			1,200 pounds ⅜-inch .... do ..... do	4 do	
			200 pounds ½-inch square iron ..... do	4 do	

				100 pounds ⅝-inch.....do.....do.....		4	do	
				400 pounds 3 by ¼-inch flat iron....do.....		4	do	
				500 pounds 2 by ⅜-inch....do.....do.....		4	do	
				200 pounds 4 by 1-inch....do.....do.....		4	do	
				200 pounds 2 by 3-16-inch do.....do.....				
				100 pounds 3 by 1¼-inch..do.....do.....				
				50 pounds 1¼ by 1-inch..do.....do.....				
				100 pounds 3 by ½-inch..do.....do.....				
				2 sheets boiler iron, 6 feet 6 inches long, 2 feet 6 inches wide, ⅝-inch thick, 467 lbs.....				
				2 sheets boiler iron, 5 feet 4 inches long, 3 feet wide, ⅝-inch thick, 480 lbs.....				
				100 pounds ox-nail rods.....				
				1,000 pounds assorted cast steel.....				
				100 pounds blistered English steel.....				
				100 pounds granite wedge steel.....				
				100 pounds 1¼ by ⅜-inch German steel.....				
				100 pounds 1 by ⅜-inch.....do.....				
July 12	June 30	Bennett & Treadwell.....		70 pounds 1¼-inch composition slating nails.....				
				100 pounds 8d. wrought-iron nails.....				
				100 pounds 40d. cut-iron nails.....				
				200 pounds 20d.....do.....				
				100 pounds 4d.....do.....				
				1 gross 2-inch iron screws, No. 16.....				
				2 gross 1¼-inch....do.....No. 15.....				
				3 pairs iron butt hinges, 4 by 3½.....				
				2 store-door locks, iron.....				
				5 store-door latches, iron.....				
				3 mortise locks, iron.....				
				204 sheets 24-ounce copper, 4 feet 1 inch long, 22 inches wide 50.....do.....do.....20....do.....				
				25 sheets 22-ounce copper.....do.....20....do.....				
				60 pounds block tin.....				
				350 pounds (5-pound) sheet lead.....				
				11 boxes roofing tin.....		9	50	per box.
				6,600 pounds dry white lead.....			7¾	per pound.
				75 pounds litharge.....			7¼	do
				25 pounds red lead.....			7¼	do
				600 pounds Paris whiting.....			2	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 12	June 30	Bennett & Treadwell—Cont'd	240 pounds French yellow	$0 2½ per pound.	Portsmouth, N. H.
			18 pounds chrome yellow	20 do	
			12 pounds lampblack	8 do	
			389 gallons linseed oil, raw	66 per gallon.	
			55 gallons spirits turpentine	50 do	
			450 lights first quality crown glass, 10 by 14	23 per light.	
			200 gallons winter-strained sperm oil	1 30 per gallon.	
			25 gallons neatsfoot oil	1 00 do	
			6 dozen corn brooms	2 50 per dozen.	
			6 dozen birch brooms	1 75 do	
			4 dozen iiiii ok paint brushes, as per sample	12 00 do	
			2 dozen 000....do....do	10 00 do	
			2 dozen Nos. 5 and 6 sash tools....do	1 25 do	
			2 dozen Nos. 4 and 7 sash tools....do	1 25 do	
			1 dozen painters' dusters....do	6 50 do	
			3 dozen whitewash brushes....do	12 00 do	
			200 pounds white chalk	½ per pound.	
			50 gallons whale oil	62½ per gallon.	
July 12	June 30	James Philbrick	40 tons (2,000 pounds) hay for oxen, loose	19 75 per ton.	
July 13	June 30	James H. Broughten	1,500 bushels sharp sand (sample to be shown at the yard)	5 per bushel.	
July 13	June 30	Samuel Adams	32 pieces, 28 feet long, 12 by 7 inches, 6,272 feet, board measure	22 00 per M. feet.	
			32 pieces, 28 ft. long, 12 by 6 inches, 5,376 feet, board measure	22 00 do	
			6 pieces, 31 feet long, 9 by 7 inches, 976 feet, board measure	22 00 do	
			4 pieces, 20 feet long, 9 by 7 inches, 420 feet....do	22 00 do	
			8 pieces, 16 feet long, 9 by 7 inches, 672 feet....do	22 00 do	
			2 pieces, 18 feet long, 9 by 7 inches, 189 feet....do	22 00 do	
			10 pieces, 18 feet long, 8 by 6 inches, 720 feet...do	22 00 do	
			8 pieces, 24 feet long, 8 by 6 inches, 768 feet....do	22 00 do	
			4 pieces, 32 feet long, 10 by 4 inches, 427 feet...do	22 00 do	
			2 pieces, 30 feet long, 10 by 4 inches, 200 feet...do	22 00 do	

			4 pieces, 20 feet long, 7 by 5 inches, 233 feet....do.....	22 00	do
			6 pieces, 16 feet long, 7 by 5 inches, 280 feet....do.....	22 00	do
			4 pieces, 27 feet long, 6 by 10 inches, 540 feet...do.....	22 00	do
			25 pieces, 20 feet long, 9 by 3 inches, 1,125 feet..do.....	17 00	do
			16 pieces, 15 feet long, 9 by 3 inches, 540 feet...do.....	17 00	do
			100 pieces, 19 feet long, 5 by 3 inches, 2,375 feet, do.....	17 00	do
			3,000 feet 3-inch spruce plank.....do.....	17 00	do
			1,000 feet 3-inch white pine plank, No. 2.....do.....	39 00	do
			1,500 feet 2-inch white pine plank, No. 2.....do.....	39 00	do
			7,000 feet 1-inch white pine boards, No. 2.....do.....	39 00	do
			14,500 feet 1-inch white pine boards, No. 3.....do.....	22 00	do
			2,000 feet 2-inch white pine plank, No. 3.....do.....	22 00	do
			6,000 sawed pine laths.....	2 50	do
July 16	June 30	A. W. Simpson.....	5,000 cubic yards, more or less, of earth and stone, to be removed from the hill at this navy yard and deposited in such places on the yard as may be directed. The offer to do this work must state the price per cubic yard; the work to be commenced and continued as the commandant of the yard may direct.....	68	per cub. yd.
July 16	June 30	John S. Harvey.....	8 reams ruled foolscap paper.....	4 50	per ream.
			6 reams ruled letter paper.....	3 75	do
			2 reams ruled envelope paper.....	5 00	do
			½ ream of blotting paper.....	5 00	per ream.
			12 gross steel pens.....	1 00	per gross.
			300 goose quills.....	2 25	per hundred.
			1 gross lead pencils.....	7 50	per gross.
			3 gallons black ink (in bottles).....	2 00	per gallon.
			1 quart red ink (in bottles).....	1 25	per quart.
			1 gallon black sand (in papers).....	1 92	per gallon.
			1 pound red wafers.....	1 00	per pound.
			1 pound red sealing wax.....	2 00	do
			2 dozen pieces India rubber.....	1 50	per dozen.
			3 dozen pieces red tape.....	31	do
			2 dozen pieces taste.....	3 00	do
			3 dozen memorandum books.....	4 00	do
			2 dozen penholders.....	1 00	do
			¼ dozen inkstands.....	15 00	do
			½ dozen sand boxes.....	6 00	do
			½ dozen penknives.....	21 00	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 18	June 30	Ira Haselton	20,000 pounds iron castings per pattern	$0 03¾ per pound	Portsmouth, N. H.
July 23	June 30	Wm. C. Brainerd	*Granite.*—1,000 cubic feet, more or less, dimension split, 18 inches rise, and not less than 2 feet by 4 feet 6 inches, suitable for foundations	25 per cubic ft.	
			314 lineal feet split, 18 inches rise, 12 inches thick, from 6 to 10 feet in length, ends and builds hammer-dressed, with a wash of 1½ inch	1 25 per lineal ft.	
			1 door-sill 5 feet 6 inches long, 16 inches wide, 9 inches rise—beds, builds, and ends hammer-dressed, with a wash	8 00 each.	
			1 door-sill 5 feet 8 inches long, 18 inches wide, 9 inches rise—beds, builds, and ends hammer-dressed, with a wash	8 14 do	
			1 door-sill 4 feet long, 18 inches wide, 9 inches rise—beds, builds, and ends hammer-dressed, with a wash	5 82 do	
			2 door-sills 5 feet 6 inches long, 18 inches wide, 9 inches rise—beds, builds, and ends hammer-dressed, with a wash	8 00 do	
			2 door-sills 7 feet 6 inches long, 18 inches wide, 9 inches rise—beds, builds, and ends hammer-dressed, with a wash	11 20 do	
			1 door-sill 5 feet long, 18 inches wide, 9 inches rise—beds, builds, and ends hammer-dressed, with a wash	7 56 do	
			2 door-caps 5 feet 6 inches long, 16 inches wide, 9 inches rise—beds, builds, and ends hammer-dressed	8 00 do	
			2 door-caps 7 feet 6 inches long, 16 inches wide, 9 inches rise—beds, builds, and ends hammer-dressed	10 00 o	
			1 door-cap 5 feet 6 inches long, 12 inches wide, 9 inches rise—beds, builds, and ends hammer-dressed	6 25 o	
			1 door-cap 5 feet long, 12 inches wide, 9 inches rise—beds, builds, and ends hammer-dressed	5 80 do	
			1 door-cap 6 feet long, 16 inches wide, 12 inches rise—beds, builds, and ends hammer-dressed	9 68 do	
			1 door-cap 4 feet 6 inches long, 16 inches wide, 12 inches rise—beds, builds, and ends hammer-dressed	7 35 do	

			2 door-steps 7 feet 6 inches long, 16 inches wide, 9 inches rise—face and ends hammer-dressed	10 80	do	
			2 door-steps 5 feet 6 inches long, 16 inches wide, 9 inches rise—face and ends hammer-dressed	7 60	do	
			30 window-sills 3 feet 6 inches long, 9 inches wide, 4½ inches rise—beds, builds, and ends hammer-dressed, with a wash	2 50	do	
			4 window-sills 3 feet 3 inches long, 16 inches wide, 7 inches rise—beds, builds, and ends hammer-dressed, with a wash	3 00	do	
			30 window-caps 3 feet 10 inches long, 8 inches wide, 7 inches rise—beds, builds, and ends hammer-dressed, with a wash	2 75	do	
			4 window-caps 3 feet 9 inches long, 16 inches wide, 9 inches rise—beds, builds, and ends hammer-dressed	3 50	do	
			8 posts split, 12 by 12 inches, 14 feet long, ends to be square	4 50	do	
July 15	June 30	McKim & Cutter	10 reams foolscap paper, ruled	4 00	per ream	Charlestown, Mass.
			10 reams letter paper, ruled	4 00	do	
			2 reams envelope paper, ruled	2 00	do	
			1 ream blotting paper, ruled	3 00	do	
			1 ream log paper, ruled	3 00	do	
			20 penknives	62½	each.	
			6 erasers	16⅔	do	
			6 paper-folders	10	do	
			6 sand-boxes	3	do	
			4 pounce-boxes and pounce	10	do	
			20 gross steel pens, such kinds as may be selected	90	per gross.	
			20 cards.....do.....do.....do	15	per card.	
			50 penholders	1	each.	
			2,000 best quality opaque quills	30	per M.	
			6 dozen lead pencils (Faber's)	40	per dozen.	
			12 pieces India rubber	2	each.	
			50 small memorandum books	10	do	
			1 ream note paper	1 00	per ream.	
			4 American Almanacs for 1854	90	each.	
			4 Boston Almanacs for 1854	25	do	
			2 Boston Directories for 1854	1 00	do	
			4 patent inkstands	75	do	
			4 copying books for naval storekeeper	2 25	do	
			6 copying books for commandant	2 25	do	
			4 copying brushes	25	do	
			2 dozen pieces taste	1 75	per dozen.	

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 15	1854. June 30	McKim & Cutter—Continued.	4 dozen pieces red tape	$0 30 per dozen.	Charlestown, Mass.
			6 pounds sealing wax	60 per pound.	
			50 papers black sand	2 each.	
			2 pounds wafers	50 per pound.	
			4 log-books, printed and ruled to pattern	3 75 each.	
			8 bottles copying ink	50 do	
			20 pint bottles black ink	17 do	
			8 small bottles red ink	6¼ do	
			4 requisition books, to pattern	3 00 do	
			1 ream pay-rolls, (super-royal,) printed and ruled to pattern.	25 00 per ream.	
			1 ream pay-rolls for Bureau of Yards and Docks, printed and ruled to pattern	10 00 do	
			1 ream blank labor reports, printed and ruled to pattern	3 25 do	
			1 ream requisitions for workmen, printed and ruled to pattern	3 25 do	
			1 ream master-mechanics' reports	3 25 do	
			1 ream clerk of checks' reports	5 50 do	
			12 sheets antiquarian drawing paper	50 per sheet.	
			20 sheets double elephant (Turkey mills)	17 do	
			20 sheets double-elephant size tracing paper	17 do	
			12 blank books for entering bills at commandant's and naval storekeeper's offices	15 each.	
			6 wafer boxes	6 do	
			6 wafer seals	10 do	
			6 letter files	75 do	
			36 memorandum books, ruled to pattern for naval constructor's office	20 do	
			1,000 large envelopes	3 00 per 100.	
			1,000 small envelopes	2 00 do	
			4 quires shippers' manifests	25 per quire.	
			4 quires blank receipts for pursers	50 do	
			2 2-quire account books	1 25 each.	

			2 3-quire ..... do	1 25	do
			2 4-quire ..... do	1 50	do
			2 6-quire ..... do	1 75	do
			1 ream bills of lading	4 50	per ream.
			2 reams invoices	6 00	do
			1 ream vouchers	5 00	do
			1 ream blank receipts	3 50	do
			2 reams bills	6 00	do
			1 ream paper for roll-covers	2 50	do
			1 ream folio-post for purser's department	5 50	do
			2 time-books for master-mechanics	1 00	each.
			3 pounds refined gum arabic	62½	per pound.
			4 quires railroad receipts	25	per quire.
			6 cakes India ink	20	per cake.
July 16	June 30	M. H. Wetherbee	450 tons building sand, per sample	67	per ton.
			5 tons moulding .. do .... do	4 09	do
			1 ton sea ..... do .... do	1 50	do
			Granite.—120 cubic yards granite, in blocks of 2 by 1 foot 3 inches thick, from 2 to 4 feet long	3 00	per cubic yd.
			420 lineal feet ashler, 1 foot 8 inches rise, 10 inches thick, hammered build. with a 2-inch wash in one course, and jointed, as per plan	64	per lineal ft.
			16 door posts, 11 feet long, 1 foot 4 inches by 1 foot 6 inches, to be revealed for doors, as per plan	19 90	each.
			8 door sills, 10 feet 8 inches long, 1 foot 6 inches wide, by 1 foot 8 inches rise	14 78	do
			8 door caps, 10 feet 8 inches long, 1 foot 6 inches by 1 foot 4 inches	18 45	do
			34 window caps, 4 feet 9 inches long, 9½ by 5½ inches	1 25	do
			34 window sills, 4 feet 2 inches long, 5 by 8 inches	1 25	do
			All the door posts, caps and sills, window caps and sills, to be well rough-hammered, except the face, which will be rough.		
			500 lineal feet piling stone, in pieces 4 feet long, 2 feet wide, 1 foot 3 inches thick, with square ends and full, bed and build even	62½	per lineal ft.
			250 cubic yards granite, in blocks 2 feet by 1 foot 3 inches, from 2 to 4 feet long	3 00	per cubic yd.

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 16	1854. June 30	M. H. Wetherbee—Continued.	226 lineal feet base, 1 foot 8 inches rise, 10 inches thick, hammered, with a 2-inch wash, as per plan	$1 00 per lineal ft.	Charlestown, Mass.
			32 door posts, 10 feet long, 1 foot 3 inches by 1 foot 6 inches.	23 10 each	
			16 door caps, 10 feet 6 inches long, 1 foot 6 inches by 1 foot 3 inches, revealed for doors, as per plan	22 00 do	
			16 door sills, 10 feet 6 inches long, 1 foot rise, 1 foot 8 inches thick	15 75 do	
			30 window sills, 3 feet 9 inches long, 5 by 8 inches	2 25 do	
			30 window caps, 4 feet 2 inches long, 9½ by 5½ inches	2 25 do	
			24 cellar window caps, 4 feet 2 inches long, 9 by 10 inches	3 00 do	
			24 cellar window lintels, 4 feet 2 inches long, 9 by 7 inches	2 40 do	
			16 door steps, 10 feet 6 inches long, 1 foot 4 inches by 9 inches, returned on the ends	12 25 do	
			2 cellar window caps, 4 feet 8 inches long, 9 by 10 inches	3 25 do	
			2 cellar window lintels, 4 feet 8 inches long, 9 by 7 inches	2 00 do	
			The above must be of a good quality granite, and well rough-hammered, as per sample.		
			100 cubic yards granite, in blocks 2 feet by 1 foot 3 inches, from 2 to 4 feet long	3 00 per cubic yd.	
			257 lineal feet base, 1 foot 8 inches rise, 10 inches thick, hammered, with a 2-inch wash, and jointed, as per plan	1 00 per lineal ft.	
			4 door posts, 10 feet long, 1 foot 4 inches by 1 foot 6 inches	17 20 each.	
			2 door caps, 12 feet long, 1 foot 4 inches by 1 foot 6 inches	20 72 do	
			2 door sills, 12 feet long, 1 foot 4 inches by 1 foot 8 inches	19 00 do	
			1 door cap, 4 feet 8 inches long, 9½ inches rise, 1 foot 4 inches wide	6 90 do	
			1 door sill, 4 feet 4 inches long, 1 foot 4 inches by 1 foot 8 inches	6 80 do	
			24 window sills, 3 feet 8 inches long, 5 by 8 inches	2 25 do	

July 18	June 30	N. W. Coffin.....	24 window caps, 4 feet 2 inches long, 9½ by 8 inches.....	2 25	do
			1,344 cubic yards granite, in courses, 1 foot 6 inches rise, from 2 to 6 feet long, and from 1 ft. 6 inches to 2 ft. wide.		
			730 lineal feet of capping stone, 3 feet square, 1 foot 6 inches thick.....	3 50	per cubic yd.
			20,000 feet, board measure, No. 2 white pine, seasoned, 1-inch boards.....	1 25	per lineal ft.
			5,000 feet, board measure, No. 2 white pine, seasoned, ¼-inch and 1½-inch plank.....	45 00	per 1,000 ft.
			12,000 feet, board measure, No. 2 white pine, seasoned, 2-inch plank.....	45 00	do
			5,000 feet, board measure, No. 3 white pine, seasoned, 1-inch boards, (planers).....	45 00	do
			60,000 feet, board measure, No. 3 white pine, seasoned, 1-inch boards.....	34 00	do
			10,000 feet, board measure, No. 3 white pine, seasoned, 2-inch plank.....	22 00	do
			1,000 feet, board measure, No. 3 white pine, 3-inch plank, 9, 13, and 18 feet long.....	22 00	do
			20,000 feet, board measure, No. 3 white pine 4-inch plank..	25 00	do
			4,000 feet, board measure, yellow pine plank, 25 to 40 feet long, and not less than 12 inches wide, 3, 4, 5, and 6 inches thick, equal quantities each thickness.....	25 00	do
			20,000 best quality white pine shingles, to be riven and shaved.	35 00	do
			20 pieces white pine, 45 feet long, 8 by 11 inches square;	5 50	per M.
			20 ..do.....do.... 27 ...do... 5 by 6 .....do		
			40 ..do.....do.... 9 ...do... 8 by 12 .....do		
			10,830 feet, board measure.....	25 00	per 1,000 ft.
			60 pieces spruce, 16 feet long, 7 by 9 inches square;		
			20.....do.....15...do....6 by 7.....de		
			240.....do.....26...do....3 by 6.....do		
			80.....do.....11...do....5 by 6.....do		
			40.....do.....11...do....6 by 6.....do		
			18,970 feet, board measure.....	18 00	do
			650 cubic feet yellow pine timber, 12 inches square, in lengths of 25, 30, 35, and 40 feet.....	30	per cubic ft.
			18 pieces white pine, 17 feet long, 9 by 10 inches square;		
			36.....do.....19...do....9 by 10.....do		
			40.....do.....11...do....6 by 8.....do		

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 18	1854. Jnne 30	N. W. Coffin—Continued	18 pieces white pine, 30 feet long, 5 by 6 inches square; 14.....do.....31...do....8 by 6.....do 14.....do.....31...do...12 by 6.....do 14,875 feet, board measure.....	$25 00 per 1,000 ft.	Charlestown, Mass.
			18 pieces yellow pine, 52 feet long, 10 by 12 inches square; 270.....do.....26...do....4 by 12.....do 37,440 feet, board measure.....	35 00 do	
			80 pieces spruce, 31 feet long, 3 by 6 inches; 120.....do.....19...do....3 by 6..do 120.....do.....12...do....3 by 6..do 36.....do.....9...do....8 by 8..do 11,028 feet, board measure.....	18 00 do	
			18 pieces white pine, 40 feet long, 8 by 11 inches square; 7.....do.....32...do....5 by 6.....do 5,840 feet, board measure.....	25 00 do	
			25 pieces spruce, 25 feet long, 8 by 11 inches at bottom, 8 by 9 inches at top, 4,500 feet, board measure.....	18 00 do	
			4 pieces spruce, 11 feet long, 8 by 8 inches square; 4.....do.....10....do....6 by 8.....do 20.....do.....10....do....6 by 6.....do 104.....do.....17....do....3 by 6.....do 104.....do.....9....do....3 by 6.....do 45.....do.....20....do....4 by 10....do 45.....do.....10....do....4 by 10....do 14,051 feet, board measure.....	18 00 do	
			350 cubic feet white pine timber, 12 inches square, in lengths of 25 and 38 feet.....	25 per cubic ft.	
			470 cubic feet white pine timber, 12 inches square, from 13 to 26 feet long.....	25 do	
			8 pieces white pine timber, 36 feet long, 12 inches square; 4.....do.....do.....28...do....12 .....do;		

July 19	June 30	Horton, Hall, & Co.....	1,100 lineal feet white pine timber, 7 by 11 inches square, in lengths of 18, 27, and 35 feet; 11,910 feet, board measure.....	25 00	per 100 feet.
			8,000 pounds American iron, round and square sizes, as may be required, from ⅜ to 3 inches.....	4½	per pound.
			8,000 pounds American iron, flat, sizes as may be required, from 1 to six inches wide, and from ¼ to 1½ inch thick....	2½	do
			4 bundles Russia sheet iron, sizes as may be required, estimated to weigh 880 pounds.....	15	do
			4 bundles English sheet iron, sizes as may be required, estimated to weigh 880 pounds.....	2	do
			500 pounds hoop iron, size as may be required.....	2	do
			500 pounds Russia horse-nail rods.....	6	do
			500 pounds Russia spike rods.....	3	do
			5,000 pounds iron castings, patterns to be furnished.....	4⅝	do
			500 pounds iron wire, as may be required, Nos. 5 to 21.	9	do
			100 pounds steel wire, as may be required.....	13	do
			500 pounds iron cut spikes.....	4½	do
			500 pounds iron wrought spikes.....	3	do
			400 pounds wrought-iron slate nails, 5d., coarse.....	16	do
			2,000 pounds iron cut nails, 4d. to 40d.....	4½	do
			1,000 pounds wrought nails, 6d. to 20d.....	3	do
			500 pounds cut finishing nails.....	4½	do
			20,000 fine clout nails.....	10	per M.
			500 pounds Swedes iron, assorted.....	3	per pound.
			500 pounds boiler iron, assorted.....	3	do
			3,500 pounds pure dry white lead, per sample.....	8½	do
			600 pounds Paris white.....	½	do
			600 pounds red lead.....	3	do
			600 pounds litharge.....	3	do
			100 pounds Paris green.....	14½	do
			25 pounds Wood's chrome green.....	25	do
			50 pounds gum shellac.....	15	do
			6 pounds chrome yellow.....	20	do
			50 pounds pumice stone.....	5	do
			25 pounds sal ammoniac.....	16	do
			25 pounds rottenstone.....	10	do
			250 gallons raw Dutch linseed oil.....	70	per gallon.
			100 gallons pure spirits turpentine.....	50	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 19	1854. June 30	Horton, Hall, & Co.—Cont'd..	30 gallons coach varnish	$1 58 per gallon.	Charlestown, Mass.
			50 pounds black lead	2½ per pound.	
			25 pounds Turkey umber	5 do	
			500 gallons best winter-strained sperm oil	1 33 per gallon.	
			30 gallons neatsfoot oil	48 do	
			150 pounds extra No. 1 brown soap	6½ per pound.	
			125 lights, 14 by 24, Redford glass	25 per light.	
			80 lights, 14 by 18 ..... do	20 do	
			50 lights, 16 by 20 ..... do	20 do	
			350 lights, 11 by 14 ..... do ..... double thick	21 do	
			125 lights, 10 by 14 ..... do	12 do	
			100 lights, 9 by 12 ..... do	8 do	
			700 lights, 9 by 12 ..... do ..... double thick	12 do	
			100 lights, 8 by 10 ..... do	4 do	
			2,000 lights, 8 by 10 ..... do	7 do	
			2,500 pounds best cast steel, sizes as may be required	16 per pound.	
			500 pounds English blistered steel	3 do	
			500 pounds German steel	3 do	
			6 dozen 14-inch flat bastard cut files	5 25 per dozen.	
			6 dozen 12-inch ..... do	4 00 do	
			6 dozen 10-inch ..... do	2 50 do	
			6 dozen 8-inch ..... do	1 63 do	
			6 dozen 14-inch flat fine cut files	1 00 do	
			6 dozen 12-inch ..... do	5 50 do	
			6 dozen 10-inch ..... do	2 88 do	
			6 dozen 8 inch ..... do	2 00 do	
			5 dozen 14-inch half-round fine cut files	1 38 do	
			5 dozen 12-inch ..... do	1 75 do	
			5 dozen 10-inch ..... do	1 12 do	
			5 dozen 8-inch half-round bastard cut files	2 19 do	
			5 dozen 14-inch ..... do	5 88 do	

5 dozen 12-inch.....do.....	5 00	do
5 dozen 10-inch.....do.....	2 63	do
2 dozen 8-inch.....do.....	1 83	do
4 dozen 3-inch saw files.....	1 50	do
4 dozen 4-inch...do.....	1 50	do
4 dozen 5-inch...do.....	1 50	do
4 dozen 6-inch...do.....	1 50	do
4 dozen 7-inch...do.....	2 25	do
4 dozen 9-inch...do.....	1 81	do
3 dozen 12-inch safe-edged smooth files.....	6 00	do
3 dozen 10-inch.....do.....	3 81	do
3 dozen 8-inch.....do.....	2 69	do
3 dozen 6 inch.....do.....	1 88	do
3 dozen 5½ inch pit-saw files.....	2 00	do
2 dozen 12-inch rat tail files.....	4 50	do
2 dozen 12-inch cabinet files.....	4 56	do
2 dozen 6-inch knife files.....	83	do
2 dozen 12-inch cabinet rasps.....	5 50	do
2 dozen 14-inch shoeing rasps.....	2 75	do
2 dozen 12-inch wood rasps, coarse.....	1 75	do
6 dozen paint brushes, iiiii.....	12 00	do
6 dozen sash-tool brushes, No. 6.....	1 75	do
3 dozen varnish brushes.....	5 00	do
3 dozen fitch brushes.....	1 25	do
3 dozen dusting brushes.....	4 00	do
3 dozen hand scrubbing brushes.....	4 00	do
3 dozen whitewash brushes, 10 inches, per sample.....	18 00	do
2 dozen hand whitewash brushes.....	1 00	do
20 dozen corn brooms.....	2 50	do
10 dozen hickory brooms.....	50	do
5 dozen birch brooms.....	2 00	do
50 pounds borax.....	40	per pound
10 pieces bunting, color as required, per sample.....	1 00	
20 baskets (2-bushel).....	1 00	each.
10 baskets (4-bushel).....	50	do
20 pounds beeswax.....	40	per pound.
3 grindstones, estimated to weigh 1,000 pounds.....	1½	do
1 dozen cattle cards.....	1 50	per dozen.
1 dozen currycombs.....	2 00	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 19	June 30	Horton, Hall, & Co.—Cont'd..	3 tape lines, 100 feet	$1 00 each.	Charlestown, Mass.
			12 chalk lines	3 do	
			20 pounds brick line	38 per pound.	
			2 sets wood truss hoops, 17, 19, and 21 inches	2 50 per set.	
			1,000 chisel rods	1 each.	
			100 pounds China glue	25 per pound.	
			100 pounds Russia glue	5 do	
			50 pounds fish glue	62 do	
			20 yards haircloth	75 per yard.	
			4 patent weather strips	2 50 each.	
			6 pounds fine sponge	1 50 per pound.	
			5 pounds shoe thread	50 do	
			4 pounds sewing thread	85 do	
			10 dozen hickory sledge handles	50 per dozen.	
			12 gross lampwicks for solar lamps	50 per gross.	
			6 dozen lamp chimneys for solar lamps	1 00 per dozen.	
			12 pounds lampwick yarn	20 per pound.	
			20 sides belt leather, estimated to weigh 400 pounds	30 do	
			10 sides pump leather, estimated to weigh 200 pounds	5 do	
			10 sides hose leather, estimated to weigh 200 pounds	5 do	
			10 sides harness leather, estimated to weigh 200 pounds	5 do	
			10 sides lace leather, estimated to weigh 100 pounds	45 do	
			10 dozen black lead pots, 3,600 numbers	4 per number.	
			2 barrels sour flour	5 00 per barrel.	
			2 barrels distiller's lees	1 50 do	
			300 pounds tallow	12 per pound.	
			3 gross matches	50 per gross.	
			30 gallons alcohol, 90 per cent	75 per gallon.	
			2 carboys oil vitriol, estimated at 300 pounds	8 per pound.	
			2 carboys muriatic acid, estimated at 785 pounds	3 do	
			1 barrel rye meal	3 25 per barrel.	

50 pounds Castile soap	10	per pound.
100 pounds potash	8	do
500 pounds white chalk	2	do
2 carboys nitric acid, estimated at 300 pounds	4	do
12 wheel brushes	1 00	each.
36 bench and hand brushes	10	do
6 long-handle tar brushes	25	do
6 horse brushes	50	do
3 anvils, estimated to weigh 500 pounds	12	per pound.
3 broadaxes	1 00	each.
6 woodaxes	75	do
6 pickaxes, steel-pointed	50	do
1 set augers for boring machine, to pattern	1 00	per set.
4 dozen screw augers (Bassett's)	1 00	per dozen.
10 dozen patent ship augers, (L'Hommidieu's,) estimated at 600 eighths	9	per eighth.
12 castors for sofas	12	each.
6 patent door springs	75	do
2 dozen pod augers	1 00	per dozen.
1 set firmer chisels, ½ to 2 inches	4 00	per set.
2 dozen turning chisels	3 88	per dozen.
2 dozen turning gouges	3 88	do
1 dozen socket gouges	1 00	do
1 dozen firmer gouges	4 50	do
2 braces and bitts	3 12	each.
2 steel-tongued bevils	56	do
6 steel hoes	42	do
20,000 brads	20	per M.
1 butcher's cleaver	1 00	each.
1 stock howell	1 00	do
2 sets hoop-rollers, cast steel	1 00	per set.
2 dozen nail gimlets	33	per dozen.
1 dozen spike gimlets	25	do
2 dozen brass butt-hinges, assorted	4 50	do
2 dozen iron butt-hinges, assorted	1 00	do
4 dozen blank door keys	1 50	do
12 hammers	25	each.
10 hatchets	25	do
2 blockmaker's hatchets	25	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 19	June 30	Horton, Hall, & Co.—Cont'd..	2,000 pounds sheet lead, thickness as may be required.....	$0 08½ per pound.	Charlestown, Mass.
			1,000 pounds lead pipe, size as required.....	5 do	
			24 iron tumbler padlocks.....	25 each.	
			20 dozen 2-inch iron axle window pulleys.....	75 per dozen.	
			6 mortise door-locks, with mineral knobs.....	1 00 each.	
			12 8-inch carpenters' door-locks, with knobs.....	25 do	
			24 chest locks.....	25 do	
			24 drawer locks.....	10 do	
			4 circular knives for cutting hide.....	1 00 do	
			12 putty knives.....	15 do	
			2 butcher's knives.....	25 do	
			3 pair callipers.....	1 00 do	
			3 pair coopers' callipers.....	75 do	
			4 2-foot rules.....	50 do	
			4 smoothing planes.....	75 do	
			4 match planes.....	50 do	
			4 jack planes.....	83 do	
			3 short jointer planes.....	50 do	
			2 long jointer planes.....	50 do	
			1 block plane.....	56 do	
			3 hay-rakes.....	25 do	
			24 cast-steel coal shovels.....	50 do	
			24 cast-steel shovels.....	1 00 do	
			12 spades.....	75 do	
			24 gross iron screws, as required, from ½ to 3 inches.....	50 per gross.	
			12 gross brass screws.....do.....do.....	2 00 do	
			1 ream sand paper.....	4 50 per ream.	
			6 single jointer irons, 2⅜ to 2¾ inches wide.....	10 each.	
			6 double jointer irons.....do.....	75 do	
			2 marking irons.....	75 do	
			4 screwdrivers.....	25 do	

12 handsaws	1 00	do
12 frame saws	62	do
6 wood saws, framed	75	do
1 circular saw, 12-inch	1 67	do
1 circular saw, 16-inch	2 00	do
1 circular saw, 34-inch	4 33	do
4 tenon saws	75	do
2 cross-cut saws	4 00	do
24 fine hack saws	25	do
2 dove-tail saws	50	do
3 trying squares	42	do
3 steel squares	1 00	do
2 saw-sets	50	do
20 pounds hose rivets	50	per pound.
5,000 iron rivets	25	per M.
5,000 copper rivets	1 00	do
10,000 tinned rivets	20	do
2 glazier's diamonds	4 50	each.
6 boxes tin, XX	14 00	per box.
13 dozen plug bitts, ¼ to 1¼-inch	1 00	per dozen.
3 dozen auger bitts	5 00	do
1,000 sail needles, assorted	1	each.
300 pounds Banca tin	26	per pound.
300 pounds pig zinc	6	do
300 pounds sheet zinc	9	do
6 bench vices, estimated at 300 pounds	7 00	each.
6 hand vices	25	do
6 dozen steel scrapers	4 00	per dozen.
6 screw wrenches	2 50	each.
24 sail knives, to pattern	25	do
12 brass tumbler padlocks	25	do
1 large copper-back thermometer	3 00	do
20,000 copper pump tacks	50	per M.
20,000 iron pump tacks	8	do
2 brass sieves, for foundry	2 75	each.
2 pair pincers	33	do
6 shoe knives	8	do
12 sewing awls	2	do
12 iron latchets	8	do

Y. & D.—No. 8—Continued.

ate.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 19	June 30	Herton, Hall, & Co.—Cont'd..	50 pounds emery	$0 10 per pound..	Charlestown, Mass.
			2 drawing-knives	50 each.	
			2 pairs tinner's shears	2 00 do	
			10 pairs round and flat pliers	62 do	
			6 hand-bellows	25 do	
			2 reams emery paper	1 00 per ream.	
			4 pairs cut nippers	75 per pair.	
			12 iron closet locks	10 each.	
			1,000 pounds braziers' copper, size as required	32½ per pound.	
			500 pounds gum elastic packing, per sample	45 do	
			75 tons, of 2,000 pounds, best quality herdsgrass or timothy loose hay	21 75 per ton.	
			1 ton straw	14 00 do	
July 22	June 30	Oakman & Eldridge	750,000 first quality hard-burnt bricks	6 75 per M.	
			2,000 Amboy No. 1 fire bricks	40 00 do	
			800 casks first quality stone lime	90 per cask.	
			20 bushels long hair	25 per bushel.	
			200 casks hydraulic cement	1 60 per cask.	
			20 casks Roman cement	3 50 do	
			1,600 bushels charcoal (birch or maple)	15 per bushel.	
			100 bushels northern oats	50 do	
			700 bushels yellow meal	85 do	
			100 bushels cracked corn	80 do	
			100 bushels shorts	50 do	
			350 tons paving stones, per sample	1 29 per ton.	
			150 tons paving gravel, per sample	48 do	
July 22	June 30	George Adams	100 tons 20-inch imperial slate, from Bangor quarry	23 90 do	
July 23	June 30	Samuel P. Brown	500 spruce piles, 20 to 30 feet long, 10 inches diameter one third from butt end	1 75 each.	
			150 spruce piles, 15 to 20 feet long, 10 inches diameter one third from butt end	1 50 do	

			400 cubic feet yellow pine timber, 30 to 45 feet long, 14 to 18 inches square, averaging 16 inches	35	per cub. ft.	
			400 cubic feet white pine timber, 15 to 18 inches square, in lengths from 20 to 30 feet, to be free from shakes and large knots	33	do	
			20,000 feet, board measure, No. 1 spruce plank, 2 inches thick	17 00	per 1,000 ft.	
			3,000 feet ..... do ..... No. 1 spruce boards, 1 inch thick	17 00	do	
			3,000 feet ..... do ..... No. 1 spruce joist, 3 by 4 inches, to average 20 feet long	17 00	do	
			2,000 feet, board measure, No. 1 spruce joist, 3 by 5 inches, to average 20 feet long	17 00	do	
			10 black spruce shores, 42 feet long, 8 inches diameter in the middle, 6 inches diameter at top end	5 00	each.	
			200 black spruce shores, 20 to 30 feet long, and from 6 to 7 inches diameter in the middle	1 40	do	
			100 black spruce poles, 20 to 30 feet long, and from 2 to 3 inches diameter in the middle	25	do	
July 16	June 30	McSpedon, Baker, & Co.	1 book consolidated ship's accounts, per pattern	3 50	do	New York.
			2 books semi-monthly reports ..... do	3 50	do	
			2 books consolidated ship's accounts ... do	2 00	do	
			20 muster books ..... do	44	do	
			50 abstract sheets ..... do	2	do	
			1 ream semi-monthly sheets ..... do	2 00	per ream.	
			24 quires pay roll for mechanics and laborers, bound in 4 books, per pattern	2 00	per book.	
			500 sheets pay roll for mechanics and laborers, per pattern	2	per sheet.	
			1 book, 5 quires, printed, ruled, and bound, per pattern	1 00	per book.	
			6 letter books			
			6 letter guard books			
			7 6-quire blank books			
			6 4-quire ..... do			
			6 3-quire ..... do			
			1 6-quire bill book, demy			
			3 6-quire requisition books, demy			
			2 6-quire requisition books, folio-post, printed			
			1 pay and receipt roll book, 2 quires			
			1 cash book, 2 quires			
			1 receipt book, 4 quires			
			1 book record of invoices, 6 quires, demy			

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 16	June 30	McSpedon, Baker, & Co.—Continued.	4 receipt books, 6 quires, demy		New York.
			4 expenditure books, 6 quires, demy		
			4 order books, 4 quires, cap		
			4 store receipt books, 4 quires, cap		
			4 store delivery books, 4 quires, cap		
			12 monthly day books, 30 sheets, cap		
			48 2-quire blank books, cap		
			48 1-quire blank book, cap		
			12 dozen memorandum books, with loops, 1 quire		
			2 dozen do leather covers, 1 quire		
			3 order books, 200 leaves, 15 by 9 inches		
			12 memorandum books, 100 leaves, 6 by 4 inches		
			6 dozen time books		
			6 quires receipts, purser's		
			5 quires muster rolls, purser's		
			5 quires pay and receipt rolls, purser's		
			6 quires transfer accounts, purser's	$1 00 per quire.	
			6 quires certificate of transfer, purser's	30 do	
			6 quires requisition for money, purser's	30 do	
			4 abstract ledgers	4 00 per book.	
			4 volumes yard log-book	3 00 do	
			400 blank forms for police reports	2 each.	
			2 reams blank forms for abstracts	4 25 per ream.	
			1 ream travelling accounts	4 00 do	
			5 reams blank requisitions on folio-post, 2,880 small or 1,440 long ones in each ream, cut and trimmed to uniform size	5 50 do	
			1 ream blank vouchers, printed heads	5 00 do	
			1 ream ruled forms for vouchers	2 00 do	
			7 reams blank bills, 5 patterns	5 25 do	
			1 ream ruled cap paper, pattern, constructor	2 00 do	
			1 ream close-ruled cap paper, pattern, naval storekeeper	2 00 do	
			1 ream flat cap paper, plain, for engineers	2 00 do	

10 reams Owens & Hurlbut's cap paper, ruled per pattern, blue laid pattern	4 00	do
15 reams Owens & Hurlbut's quarto-post, faint-lined, blue laid pattern	4 00	do
24 reams best quality cap paper, faint-lined	4 00	do
30 ...do... letter ...do	4 00	do
11 ...do... cap paper, regulation, ruled per pattern	2 00	do
1 ...do... note paper	3 00	do
2 ...do... folio-post paper, faint lined	1 00	do
2 ...do... demi-demi paper, flat	4 00	do
1 ...do... log paper	2 00	do
3 ...do... thick blotting paper	4 50	do
12 sheets demi hot-pressed drawing paper, Whatman's	2	per sheet.
12 sheets medium ...do... ...do	3	do
12 sheets royal ...do... ...do	5	do
12 sheets super-royal ...do... ...do	6	do
12 sheets imperial ...do... ...do	8	do
168 sheets elephant ...do... ...do	8	do
192 sheets double elephant ...do... ...do	13	do
24 sheets Columbian ...do... ...do	10	do
24 sheets atlas ...do... ...do	10	do
168 sheets antiquarian ...do... ...do	25	do
216 sheets best French tracing paper, 42 by 30 inches	10	do
12 reams best yellow envelope paper	4 50	per ream.
6 dozen bottles black ink, (quart) Maynard & Noyes	3 00	per dozen.
1 dozen half-pint bottles carmine ink	1 50	do
16 pieces India rubber, (for engineers) per sample	24	per piece.
24 dozen pieces wide red tape	16	per dozen.
3 dozen rolls silk taste, assorted colors, per sample	1 75	do
6 gross Faber's best lead-pencils, assorted Nos., per sample	3 00	per gross.
3 dozen "Ligne's" French drawing pencils, No. 3	98	per dozen.
12 dozen Faber's drawing pencils, No. 2	98	do
6 dozen Elliot's ...do... H H H H	98	do
2 dozen red-chalk pencils	62	do
60 gross steel pens, assorted	2 50	per gross.
12 dozen penholders, assorted	50	per dozen.
6 cards lithographic pens	12	per card.
200 slate-pencils, white Rutland, per sample	10	per 100.
20 dozen half-pint papers black sand	12	per dozen.

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 16	June 30	McSpedon, Baker & Co.—Continued.	2 dozen 4-blade penknives, best quality, per sample	$11 50 per dozen.	New York.
			6 patent inkstands, per sample	25 each.	
			6 metal inkstands with covers, per sample	25 do	
			2 inkstands with racks, for engineers	25 do	
			2 inkstands for India ink	25 do	
			6 dozen pieces India rubber, per sample	96 per dozen.	
			1 dozen India rubber bands, for engineers	35 do	
			4 pounds vulcanized rubber, for engineers	90 per pound.	
			6 erasure knives, ivory handles	25 each.	
			12 ivory letter folders, per sample	28 do	
			1,000 quills, best No. 80	2 00 per 1,000.	
			3 log slates, double, per sample	90 each.	
			3 school slates	10 do	
			16 pounds refined gum arabic	25 per pound.	
			4,500 letter, note, and regulation envelopes, assorted	50 per 100.	
			10 pounds sealing wax, best American	45 per pound.	
			12 pounds best scarlet wafers, assorted	30 do	
			2 letter clips, for engineers	25 each.	
			2 steel rulers, 2 by 3 feet long, for engineers	25 do	
			1 letter rack, for engineers	25 do	
			1 case drawing instruments, &c., (Pentice's) for engineers	1 00 per case.	
July 17	June 30	E. B. Peet	80,000 hard-burnt North River bricks	5 75 per 1,000.	
			1,000 loads building sand	24 per load.	
July 19	June 30	Lawrence Cement Company	250 barrels (of 300 pounds) of best quality hydraulic cement	1 25 per barrel.	
July 19	June 30	James Ludlum	6 dozen 3-inch C. S. taper files	56 per dozen.	
			120 do 4-inch do	63 do	
			72 do 5-inch do	80 do	
			24 do 6 inch do	1 09 do	
			24 do 7-inch do	1 46 do	
			12 do 7-inch do	1 20 do	
			24 do 8-inch do	1 47 do	

12	do	9-inch C. S. mill-saw files	1	88	do
10	do	8-inch C. S. flat bastard files	1	47	do
20	do	10-inch do	2	20	do
20	do	12-inch do	3	05	do
20	do	14-inch do	4	28	do
10	do	8-inch C. S. ½-round bastard files	1	65	do
20	do	10-inch do do	2	37	do
20	do	12-inch do do	3	38	do
20	do	14-inch do do	4	84	do
1	do	5-inch C. S. rat-tail files	1	13	do
2	do	6-inch do	1	13	do
2	do	8-inch do	1	65	do
1	do	9-inch do	2	03	do
2	do	10-inch do	2	37	do
2	do	12-inch do	3	38	do
2	do	14-inch do	4	84	do
1	do	5-inch C. S. square files	1	02	do
2	do	6-inch do	1	13	do
2	do	8-inch do	1	65	do
2	do	10-inch do	2	37	do
2	do	12-inch do	3	38	do
2	do	14-inch do	4	84	do
1	do	8-inch C. S. flat smooth files	1	97	do
1	do	10-inch do	2	87	do
1	do	12-inch do	4	05	do
1	do	14-inch do	6	08	do
3	do	3-inch C. S. ward files, double cut	1	00	do
2	do	5-inch do do	1	25	do
2	do	10-inch C. S. cabinet files	2	87	do
2	do	12 inch do	4	05	do
2	do	8-inch C. S. cabinet rasps	2	19	do
2	do	10-inch do	3	15	do
2	do	12-inch do	4	62	do
2	do	14-inch C S. horse rasps	4	57	do
½	do	6-inch C. S. flat files, double cut	1	02	do
½	do	8-inch do do	1	47	do
½	do	12 inch do do	3	05	do
½	do	6-inch do single cut	1	02	do
½	do	8-inch do do	1	47	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 19	June 30	James Ludlum—Continued....	½ dozen 12-inch C. S. flat files, single cut	$3 05 per dozen...	New York.
			½ dozen 6-inch C. S. half-round files, single cut	1 13 do	
			½ dozen 8-inch ....do.... ....do	1 65 do	
			½ dozen 12 inch....do.... ....do	3 38 do	
July 20	June 30	S. G. Bogert.....	1,000 feet, board measure, clear ⅝-inch white pine boards...	40 00 per M feet.	
			2,500 feet.....do.....1¼-inch.....do.....	40 00 do	
			1,000 feet.....do.....1¼-inch white pine plank ...	40 00 do	
			1,000 feet.....do.....1¼-inch.....do.....	40 00 do	
			1,500 feet.....do.....2-inch.....do.....	40 00 do	
			1,500 feet, board measure, merchantable 1-inch white pine boards	30 00 do	
			1,000 1¼-inch Albany white pine plank	28 per piece.	
			1,000 1½-inch.....do	35 do	
			100 lineal feet 3 by 4-inch hemlock	3 per lineal ft.	
			1,000...do...6 by 3-inch...do	3 do	
			2,000 feet, board measure, 1¼-inch yellow pine plank, not less than 12 inches wide	30 00 per M feet.	
			450 feet, board measure, 2½-inch mahogany	20 per foot.	
			3,500 feet.....do.....1-inch hemlock fence boards.....	16 00 per M feet.	
			100 round piles, 10 inches diameter at butt, 25 feet long	2 00 per piece.	
			48 hickory bars, to square 3 inches one end and 2 inches the other	40 do	
			24 spruce poles, to average 3 inches in diameter.....	40 do	
July 20	June 30	Storer & Stephenson.....	1,000 pounds 3½ by 3¼-inch flat iron	4 per pound.	
			1,000 pounds 3 by ¾-inch....do	3½ do	
			1,000 pounds ½-inch round iron	4½ do	
			1,000 pounds $\frac{9}{16}$-inch....do	4 do	
			1,000 pounds ¼-inch ....do	3½ do	
			1 dozen brad awls and handles, assorted	1 00 per dozen.	
			4 dozen L'Hommedieu's patent ship augers, without screws, $\frac{9}{16}$ inch	5 00 do	

8 dozen L'Hommedieu's patent ship augers, without screws, $\frac{11}{16}$-inch	5 00	do
8 dozen L'Hommedieu's patent ship augers, without screws, $\frac{3}{16}$-inch	5 00	do
6 dozen L'Hommedieu's patent ship augers, without screws, $\frac{15}{16}$-inch	7 00	do
4 dozen L'Hommedieu's patent ship augers, without screws, $\frac{7}{16}$-inch	8 00	do
2 dozen L'Hommedieu's patent ship augers, without screws, $\frac{9}{16}$-inch	10 00	do
12 best screw augers, $\frac{1}{2}$-inch	20	each.
12 do $\frac{5}{8}$-inch	50	do
12 do $\frac{3}{4}$-inch	50	do
6 do $\frac{7}{8}$-inch	30	do
12 do 1-inch	50	do
6 do 1$\frac{1}{8}$-inch	80	do
12 do 1$\frac{1}{4}$-inch	60	do
6 do 1$\frac{3}{8}$ inch	1 00	do
12 do 1$\frac{1}{2}$-inch	75	do
6 do 1$\frac{5}{8}$-inch	1 00	do
12 do 1$\frac{3}{4}$-inch	75	do
6 do 1$\frac{7}{8}$-inch	1 50	do
12 do 2-inch	1 00	do
3 do 2$\frac{1}{4}$-inch	2 00	do
3 do 2$\frac{1}{2}$-inch	2 00	do
3 do 2$\frac{3}{4}$-inch	2 00	do
3 do 2$\frac{1}{4}$-inch	2 00	do
3 do 2$\frac{3}{4}$-inch	2 00	do
3 do 3-inch	3 00	do
2 round axes, handled, best quality	2 00	do
42 wood do do	1 00	do
4 smiths' anvils, best quality, not less than 350 pounds each—say 1,400 pounds	15	per pound.
3 dozen augers, spur bitts, $\frac{3}{16}$-inch	1 00	per dozen
3 dozen do $\frac{1}{4}$-inch	2 00	do
3 dozen do $\frac{5}{16}$-inch	1 00	do
3 dozen do $\frac{3}{8}$-inch	2 00	do
3 dozen do $\frac{7}{16}$-inch	1 00	do
3 dozen do $\frac{1}{2}$-inch	2 00	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 20	June 30	Storer & Stephenson—Cont'd.	6 dozen pad and spoon bitts, assorted	$1 00 per dozen.	New York.
			1 dozen centre bitts, assorted	2 00 do	
			1 dozen plug bitts, 1¼-inch	12 00 do	
			1 dozen....do....1⅛-inch	10 00 do	
			1 dozen....do....1-inch	10 00 do	
			1 dozen....do....⅞-inch	7 00 do	
			1 dozen....do....¾-inch	10 00 do	
			½ dozen....do....⅝-inch	8 00 do	
			26 dozen corn brooms, best quality	2 00 do	
			30 dozen hickory brooms..do	1 00 do	
			14 dozen birch brooms....do	1 00 do	
			1 dozen 1¾-inch brass plate buttons	50 do	
			78 turning chisels, assorted, ¼ to 2½ inches, handled—say 696 eighths	8 per eighth.	
			48 socket chisels, assorted, ½ to 2¾ inches, handled—say 570 eighths	6 do	
			100 pounds best quality glue	20 per pound.	
			2 dozen best cast-steel hoes, handled	10 00 per dozen.	
			1 set cart harness, sample	20 00 per set.	
			20 pair 2½-inch iron butt hinges	5 per pair.	
			20 pair 3-inch....do	10 do	
			20 pair 4-inch....do	10 do	
			2 dozen bottles Kellenger's horse liniment	4 00 per dozen.	
			1 paint mill, 2 feet in diameter	10 00	
			100 pounds horseshoe nails, pattern	25 per pound.	
			100 pounds ox-shoe....do	25 do	
			600 pounds 30-penny iron cut nails	4 do	
			1,400 pounds 12-penny....do	3¾ do	
			500 pounds 10-penny....do	5 do	
			800 pounds 8-penny....do	4 do	
			300 pounds 6-penny....do	5 do	

100 pounds 8-penny clasp-head iron wrought nails	8	do
100 pounds 10-penny.... do.....do	10	do
12,000 8-oz. iron cut tacks	8	per M.
20,000 20-oz. iron pump tacks	20	do
2 dozen 3½-inch iron padlocks	4 00	per dozen.
1 dozen 7-inch iron rim dead locks	12 00	do
50 reams best quality sand paper	1 80	per ream.
4 reams.....do.....emery paper	5 00	do
100 sewing needles, best quality, assorted	2 00	per 100.
12 pair 1¾-inch iron axle sash pulleys	10	per pair.
1 2-foot rule, best boxwood	38	each.
2 dozen iron rakes, handled	12 00	per dozen.
65 gross ¾-inch iron screws, assorted numbers	30	per gross.
11 gross 1-inch.....do.....do	30	do
11 gross 1¼-inch.....do.....do	50	do
11 gross 1½-inch.....do.....do	50	do
5 gross 2-inch.....do.....do	1 00	do
90 gross $1\frac{3}{16}$-inch.....do.....do	3	do
12 crosscut saws, sample	3 00	each.
18 hack saws.....do	1 00	do
2 turning saws.....do	5 00	do
4 handsaws.....do	2 00	do
6 Ohio grindstones, 5 feet diameter, 5½ inches thick	10 00	do
12 iron squares, cast steel	25	do
6 pounds best oil-stone	50	per pound.
10 dozen best cast-steel shovels	12 00	per dozen.
4 dozen best cast-steel spades	9 00	do
4 screw-wrenches, (1 each,) 12, 14, 16, and 18 inches	2 00	each.
1 pound blind wires	1 00	per pound.
1 ox-yoke	50	each.
50 pounds iron wire, assorted	10	per pound.
1 dozen pair 2-inch iron butt hinges	1 00	per doz. pr.
1 dozen 3-inch iron padlocks	3 00	per dozen.
1 dozen 3-inch cupboards locks	3 00	do
1 dozen 3-inch iron drawer locks	4 00	do
1 dozen 3-inch brass flush bolts	3 00	do
500 pounds Bender's iron pressed spikes	10	per pound.
250 pounds Russia sheet iron, Nos. 12 and 14	20	do
2 jack planes, double irons	1 00	each.

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 20	1854. June 30	Storer & Stephenson—Cont'd.	2 smoothing planes, double irons	$1 00 each.	New York.
			2 fore planes, double irons	1 00 do	
			2 boxes IC tin	15 00 per box.	
			2 boxes IX tin	15 00 do	
			2 smiths' vices of 150 pounds each, say 300 pounds	20 per pound.	
			2 hand vices	2 00 each.	
			100 pounds sheet zinc	10 per pound.	
			10 pounds sash cord, 6-strand	25 do	
			10,000 iron cut brads, assorted	10 per 1,000.	
			1 dozen chalk lines of 100 feet	1 00 per dozen.	
			10,000 iron tinned rivets, assorted	80 per 1,000.	
			3 2-foot rules	25 each.	
			3 dozen brass sash-fastenings	2 50 per dozen.	
			1 dozen spoke shaves, assorted	6 00 do	
			4,000 pounds brown zinc paint	6 per pound.	
			4,000 pounds dry white lead, pure	8 do	
			100 pounds white lead in oil	10 do	
			1,600 pounds red lead	10 do	
			2,500 pounds chrome yellow	15 do	
			7,500 pounds French yellow ochre	2 do	
			2,500 gallons pure linseed oil, raw	74 per gallon.	
			30 gallons black japan	1 00 do	
			500 gallons spirits turpentine	50 do	
			300 pounds litharge	6 per pound.	
			1,000 pounds whiting	1 do	
			1,000 pounds lampblack	2 do	
			200 pounds Venetian red	2 do	
			200 pounds patent drier	10 do	
			50 pounds brown soap	10 do	
			10 pounds beeswax	30 do	
			3 pounds Indian red	10 do	

			5 pounds Chinese blue	1 00	do
			4 pounds red vermilion	1 50	do
			100 pounds chrome green	20	do
			8 pounds terra de sienna	10	do
			15 pounds umber	6	do
			7 pounds ivory black	2	do
			12 pounds Vandyke brown	15	do
			50 pounds Paris green	30	do
			20 pounds pumice stone	5	do
			10 pounds Oxford ochre	10	do
			1,000 pounds white zinc paint	10	do
			10 gallons coach varnish	50	per gallon.
			10 gallons copal varnish	2 50	do
			6 gallons harness varnish	2 00	do
			300 feet 7 by 9-inch Redford crown glass, double thickness, (French glass)	10	per foot.
			100 feet 10 by 12-inch Redford crown glass, double thickness, (French glass)	10	do
			100 feet 9 by 11-inch Redford crown glass, double thickness, (French glass)	10	do
			100 feet 8 by 10-inch Redford crown glass, double thickness, (French glass)	10	do
			100 feet 10 by 14-inch Redford crown glass, double thickness, (French glass)	10	do
			50 feet 14 by 20-inch Redford crown glass, double thickness, (French glass)	15	do
			100 feet 12 by 16-inch Redford crown glass, double thickness, (French glass)	10	do
			100 feet 14 by 16-inch Redford crown glass, double thickness, (French glass)	15	do
			100 feet 9 by 12-inch Redford crown glass, double thickness, (French glass)	7	do
			100 feet 11 by 14-inch Redford crown glass, double thickness, (French glass)	7	do
July 22	June 30	Felix Devlin, jr	2,000 bushels pine-wood charcoal	19	per bushel.
July 22	June 30	G. G. Glasier	1,600 pounds square cast steel, assorted sizes, best quality	12	per pound.
			400 pounds octagon cast steel, 5/8-inch, best quality	20	do
			500 pounds blister steel, London, (L)	8	do
			300 pounds German steel, best quality	11	do

Y. & D.—No. 8—Continued.

Date.	Expiration	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 22	June 30	G. G. Glasier—Continued	40 gallons alcohol, 95 per cent. proof	$0 60 per gallon.	New York.
			100 pounds potash	10 per pound.	
			100 pounds prussiate of potash	35 do	
			50 pounds best refined borax	50 do	
			12 dozen extra whitewash brushes	12 00 per dozen.	
			22 dozen extra (6) paint brushes	8 00 do	
			½ dozen extra (4) ....do	8 00 do	
			½ dozen extra (2) ....do	8 00 do	
			25 dozen No. 6 sash-tool brushes	1 50 do	
			1 dozen No. 2 varnish brushes	4 50 do	
			8 dozen painters' dusting brushes	3 25 do	
			½ dozen hand dusting brushes	4 50 do	
			5 dozen French fitches	75 do	
			5 dozen sable-hair lettering pencils	1 50 do	
			2 dozen paying tools	2 25 do	
			1 dozen horse brushes	7 00 do	
			1 dozen long-handled tar brushes	6 00 do	
			3 universal chocks for turning-lathe, pattern	8 00 each.	
			360 pounds pure sperm candles	30 per pound.	
			2 pieces 18-inch blue bunting	5 00 per piece.	
			3 pieces 18-inch red bunting	5 00 do	
			3 pieces 12-inch red bunting	4 00 do	
			3 pieces 18-inch white bunting	4 00 do	
			3 pieces 12-inch white bunting	4 00 do	
			40 yards light ravens duck	15 per yard.	
			10 pounds emery, No. 2	15 per pound.	
			10 pounds ground glass	15 do	
			100 pounds signal halliards	10 do	
			100 pounds best W. O. tanned pump leather	30 do	
			100 pounds best leather belting	20 do	
			4 sides best lacing leather	1 38 per side.	
			500 feet in length 2-inch lead pipe, say 4,000 pounds	6 per pound.	

			100....do.....1-inch....do.....700....do.....		7	do
			30 yards white muslin, yard wide.....		6	per yard.
			40 fathoms 5-inch hemp rope, say 222 pounds.....		13	per pound.
			40 fathoms 3-inch.....do.... say 88....do.....		13	do
			200 pounds India rubber.....		35	do
			3 Ballard's patent planking jackscrews, stocks 2½ feet.....	30	00	each.
			3.....do.....do.....do.....3 feet.....	35	00	do
			2 dozen steel-blade ship scrapers, iron handles.....	5	00	per dozen.
			1,200 pounds best beef tallow.....		10½	per pound.
			2 pounds linen thread, No. 65.....		60	do
			8 barrels coal tar.....	4	00	per barrel.
			24 pounds cotton lamp wicking.....		13	per pound.
			400 pounds cotton waste.....		12	do
			300 pounds packing yarn, best quality.....		16	do
			10 pounds flour of emery.....		10	do
			10 pounds British lustre.....		12	do
			5 pounds gum shellac.....		12	do
			560 gallons pure sperm oil.....	1	00	per gallon.
			30 gallons neatsfoot oil.....		80	do
			120 gallons whale oil		40	do
			3 pounds mica.....		80	per pound.
			20 gallons Florence oil.....	1	30	per gallon.
			1,000 pounds Manilla rope, assorted.....		13	per pound.
			2 pounds fine sponge.....	1	30	do
			2 dozen scrubbing brushes	2	30	per dozen.
			200 bushels mahogany sawdust.....		50	per bushel.
			10 dozen hickory sledge handles	2	00	per dozen.
			10 dozen hickory hammer handles.....	1	00	do
July 22	June 30	S. J. Seely	175 barrels lime, equal to Seely's	1	50	per barrel.
July 22	June 30	C. S. Storms.....	50 tons best timothy and clover hay, say 112,000 pounds....		98	per 100 lbs.
			20,000 pounds Indian meal.....		95	do
			2,500 pounds ground feed.....	1	50	do
			1,500 bushels oats		50	per bushel.
			700 bushels shipstuff, or fine feed		19	do
			1,500 bundles straw.....		4	per bundle.
			2 sacks fine salt.....	1	00	per sack.
			1 fire-engine complete, of the most approved modern build, with 500 feet of leading hose and 18 feet of suction hose, and apparatus complete, as per pattern.....	1,325	00	

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 22	June 30	C. S. Storms—Continued.....	500 feet leading hose, 3-inch, with couplings complete, to fit yard hose	$0 85 per foot.....	New York.
			1 Worthington pump and fixtures complete, to be attached to steam-boiler in western reservoir	400 00	
July 14	June 30	Wm. H. Maurice.....	24 sheets double elephant drawing paper	14¼ per sheet .	Philadelphia.
			24 sheets Columbian.....do	12½ do	
			2 reams letter paper, ruled to pattern	2 50 per ream.	
			2.....do.....faint-lined	2 50 do	
			9 reams cap paper.....do	2 50 do	
			1 ream cap envelope paper	2 25 do	
			1 ream large envelope paper	3 00 do	
			2 reams blank bills, to pattern	4 50 do	
			1 ream receipts for recruits, to pattern	5 00 do	
			½ ream certificates of settlement, to pattern	8 00 do	
			½ ream pay accounts.....do	8 00 do	
			½ ream mechanics' pay rolls.....do	24 00 do	
			½ ream money requisitions.....do	16 00 do	
			1 ream officers' pay rolls.....do	24 00 do	
			½ ream officers' muster rolls.....do	24 00 do	
			½ ream discharges.....do	7 50 do	
			½ ream allotment tickets.....do	6 00 do	
			½ ream requisitions for small stores.do	12 00 do	
			½ ream stewards' weekly returns...do	5 00 do	
			12 quires blotting paper	20 per quire.	
			500 quills, clarified, No. 80	2 00 per 100.	
			1½ pound sealing wax	1 12½ per pound.	
			1 pound French wafers, red	75 do	
			½ pound pounce	1 00 do	
			9 dozen Faber's & Contee's drawing pencils	50 per dozen.	
			32 dozen Monroe's best lead pencils	50 do	
			2,500 legal envelopes, white	30 per 100.	

			2, 100 letter.....do.....	20	do	
			6 dozen pieces red tape.....	22	per dozen.	
			1 dozen pieces mouth glue.....	12	do	
			2 pieces India ink.....	25	per piece.	
			28 pieces India rubber.....	6	do	
			444 papers black sand.....	1½	per paper.	
			2 American Almanacs for 1854.....	87½	each.	
			18 small bottles carmine.....	12½	do	
			18 quart bottles Maynard & Noyes's black ink.....	25	do	
			1 quart bottle Arnold's copying black ink.....	75	do	
			2 small bottles blue ink.....	6	do	
			130 cards Perryan 3-pointed pens.....	20	per card.	
			8 penknives.....	1 00	each.	
			2 erasing knives.....	25	do	
			42 memorandum books.....	3 00	do	
			1 log-book, to pattern.....	3 00	do	
			2 diaries.....do.....	1 00	do	
			1 pay-book..do.....	2 00	do	
			6 blank books, 3 quires each.....	50	do	
			1 mechanics' and laborers' book, to pattern.....	10 00	do	
			1 requisition book.....do.....	6 00	do	
			5 letter files.....	1 25	do	
			2 sandboxes.....	12½	do	
			2 inkstands.....	50	do	
			2 flat rulers.....	25	do	
July 14	June 30	James Lesley, jr.	100 pounds 20-penny cut nails.....	3 74	per 100 lbs.	
			100 pounds 12-penny...do.....	3 74	do	
			200 pounds 10-penny...do.....	3 74	do	
			¼ ream patent glass paper No. 0.....	2 75	per ream.	
			¼.....do.....No. ½.....	2 75	do	
			1.....do.....do.....No. 1.....	2 75	do	
			1 dozen screw-augers with cutters for brasses, assorted from ⅜ to 1 inch.....	3 75	per dozen.	
			1 dozen screw-augers, assorted from ¼ to 2 inches.....	7 00	do	
			1 dozen centre-bits, assorted from ⅜ to 1¼ inch.....	1 25	do	
			12 cross-cut saws.....	1 50	each.	
			6 panel saws.....	1 00	do	
			3 tenon saws.....	1 00	do	
			3 wood saws.....	75	do	

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 14	1854. June 30	James Lesley, jr.—Continued.	6 broad-axes	$2 00 each.	Philadelphia.
			3 wood-axes	75 do	
			6 adzes	2 00 do	
			2 grindstones, each 48 inches diameter	12 00 do	
			3 gross 1-inch iron screws, No. 12	25 per gross.	
			3 gross 2-inch....do.....No. 16	64 do	
			4½ dozen cast-steel shovels, Nos. 3 and 4	9 70 per dozen.	
			½-dozen.....do.....No. 0000	7 50 do	
			1 dozen spades	6 00 do	
			1 patent tape-line, 100 feet long	1 25 do	
			9 pairs bead planes, right and left, from ¼ to 1¼ inch	1 25 per pair.	
			6 dozen 12-inch mill-saw files	3 50 per dozen.	
			6..do.. 10-inch.....do	2 50 do	
			6..do.. 5-inch hand-saw files	80 do	
			20..do.. 4½-inch.....do	80 do	
			10..do.. 3½-inch.....do	57 do	
			2..do.. 12-inch half-round cabinet rasps	4 16 do	
			2..do.. 12-inch half-round cabinet files	3 90 do	
			2..do.. 14-inch flat fine files	5 00 do	
			2..do.. 14-inch flat coarse files	4 00 do	
			2..do.. 14-inch half-round fine files	6 00 do	
			2..do.. 14-inch half-round coarse files	4 50 do	
			2..do.. 6-inch rat-tail files	1 10 do	
			60 pounds glue	17 per pound	
			20 pounds borax	33 do	
			10 pounds spelter	7 do	
			10 pounds ox-shoe nails	do	
			12 pounds rotten-stone	do	
			6 pounds sponge	do	
			200 pounds copperas	do	
			200 sledge handles	each.	

12 sides bellows leather		per side.
20 gallons dubbing		per gallon.
5 gallons neatsfoot oil		do
1 barrel fish oil		per barrel.
30 pounds brown soap		per pound.
50 pounds Castile soap		do
12 dozen corn brooms		per dozen.
6 dozen hickory brooms, flat		do
4 dozen whitewash brushes, 8 knot		do
4 dozen hand-scrub brushes		do
1 dozen dusting brushes		do
1 dozen sweeping brushes, with handles		do
2 dozen 1-bushel baskets, oak or hickory		do
2 dozen 2-bushel do		do
2 dozen iron-bound water-buckets		do
1 dozen iron-bound water-cans		do
½ dozen copper-riveted fire-buckets		do
1 horse cover		each.
2 horse cards		do
2 horse brushes		do
1 horse comb		do
2 currycombs		do
1 bottle oil of spike		per bottle.
1 pair sheep-shears	62	per pair.
1 set cart harness, complete to order	16 00	per set.
1 do for chains to order	16 00	do
5 barrels sperm oil—150 gallons	1 45	per gallon.
5 barrels tallow—1,000 pounds	10½	per pound.
50 pounds gum packing	50	do
200 pounds sheet lead	8¼	do
400 pounds cotton waste	8¼	do
6 largest size screw wrenches	2 25	each.
6 smallest size do	75	do
6 belt punches, ⅛ inch	31¼	do
2 brass pumps, 4 inches diameter	50 00	do
100 feet iron pipe, 2½ inches diameter	1 00	per foot.
50 feet lead pipe do	62½	do
3 tin oil tanks, 40 gallons each	5 00	each.
6 copper oil feeders	50	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 14	June 30	James Lesley, jr.—Continued.	12 patent-spring oil cans	$0 31¼ each.	Philadelphia.
			20 quires emery paper	30 per quire.	
			34 feet 2-inch leather hose, copper riveted, with coupling in the centre	75 per foot.	
July 15	June 30	Charles F. Hollingshead	14 tons timothy and clover hay	19 75 per ton.	
			800 bundles rye straw	9 per bundle.	
July 16	June 30	Lester D. Fuller	50 cords yellow pine wood	4 75 per cord.	
			1,000 team-loads paving gravel, 32 cubic feet each	87½ per load.	
			150 bushels ground oats and corn	80 per bushel.	
			120 bushels oats	55 do	
			20 bushels wheat ship-stuff	75 do	
			2 bushels salt	50 do	
July 20	June 30	Lester D. Fuller	1,200 lineal feet curb-stone, 5 inches thick, 5 to 10 feet long	35 per foot.	
			1,200 lineal feet flag-stone, 12 inches wide, not less than 3 inches thick, and from 2 to 6 feet long	25 do	
			3,000 perches pier stone	60 per perch.	
			600 team-loads pebble paving stone	2 70 per load.	
			28,666 feet, free measure, hemlock wharf timber	8¾ per foot.	
			10,000 feet, board measure, white pine, 11 by 15 inches, and 30 to 50 feet long	2 do	
			30,000 feet, board measure, white pine plank, 5 inches thick, 30 to 50 feet long, and not less than 12 inches wide	2 do	
			50 white-oak fenders, 7 by 9 inches square, and 12 feet long	3 do	
			500 feet, board measure, white-pine panel boards, ⅜ in. thick	4 do	
			500 feet...do...do...panel plank, 1½ in. thick	4 do	
			500 feet...do...do...do...2 in. thick	4 do	
			600 feet...do...ash plank, 2¼ inches thick	3 do	
			500 feet...do...ash boards, 1 inch thick	3 do	
			6 pieces white hickory, 8 by 8 inches, and 7 feet 6 in. long	1 00 each.	
July 18	June 30	Geo. J. Weaver & Co.	500 fathoms 2¾-inch Manilla rope, estimated at 700 pounds	13 per pound.	
			800...do...3-inch...do...do...1,300...do	13 do	

			300...do...3½-inch .....do.....do.....600...do....	13	do	
			300...do...3¾-inch .....do.....do.....750...do....	13	do	
			400...do...4-inch.....do.....do....1,200...do....	13	do	
			300...do...4¼-inch.....do.....do....1,100...do....	13	do	
			300...do...4¾-inch.....do.....do....1,200...do....	13	do	
			6 pitching axes	75	each.	
			1 barrel coal tar	1 00	per barrel.	
June 29	June 30	Peter Fritz.....	Repairing steps at Naval Asylum, and furnishing materials for the same	1,000 00	.....	Naval Asylum.
July 11	June 30	A. E. Patton.....	50 pea-coats, coarse blue pilot cloth.....	8 25	each.	
			125 jackets, blue cloth.....	5 75	do	
			160 vests, blue cloth.....	2 00	each.	
			225 pairs pants, blue cloth.....	3 87½	per pair.	
			500 shirts, (over,) white cotton shirting.....	62½	each.	
			250 shirts, (under,) blue flannel, indigo dye.....	1 12½	do	
			200 shirts, (under,) Canton flannel, unbleached	50	do	
			200 pairs drawers, blue flannel, indigo dye	1 12½	per pair.	
			200 pairs drawers, cotton flannel, unbleached.....	50	do	
			200 handkerchiefs, black silk, for the neck	87½	each.	
			300 pairs half hose, woollen	25	per pair.	
			100 jackets, brown drilling.....	1 40	each.	
			75 vests, brown drilling.....	1 25	do	
			150 pairs pants, brown duck	1 25	per pair.	
			50 pairs drawers, white cotton drilling.....	50	do	
			500 pairs half hose, cotton	12½	do	
			500 pocket handkerchiefs, cotton	12½	each.	
July 12	June 30	Wm. F. Misky.....	10 cords pine wood.....	5 00	per cord.	
			50 barrels charcoal.....	75	per barrel.	
July 13	June 30	Frederick Scheidt.....	42,000 pounds best fresh bread.....	2¾	per pound.	
			125 pies, mince.....	12½	each.	
			75 pies, fruit	12½	do	
July 14	June 30	David Woelpper.....	30,000 pounds fresh beef, and good quality.....	8½	per pound.	
			9,000 pounds corned beef.....do.....	7½	do	
			2,500 pounds bacon .....do.....	8	do	
			2,500 pounds salt pork.....do.....	7	do	
			6,000 pounds veal.....do.....	8½	do	
			1,500 pounds beef liver.....do.....	3	do	
			800 pounds beef, dried.....do.....	14	do	
			100 pounds lard.....do.....	12½	do	

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 14	June 30	David Woelpper—Continued.	650 pounds poultry, good quality	$0 12½ per pound.	Naval Asylum.
			1,800 pounds fish, fresh in season	8½ do	
			750 bushels potatoes	65 per bushel.	
			26,000 pounds vegetables, in season, required semi-weekly	3 per pound.	
			20 bushels best dry white beans	2 00 per bushel.	
July 15	June 30	William Muldorn	135 hats, black felt	2 12½ each.	
			125 pairs half boots, calfskin	2 87½ per pair.	
			350 pairs laced boots, like navy pattern	1 37½ do	
			130 pairs slippers	75 do	
			130 pairs boots and shoes, half-soled	40 do	
			130 pairs boots and shoes, heeled	20 do	
July 15	June 30	Doughten & Wilson	12 bushels sand, pewter	15 per bushel.	
			6 dozen scrubs, hand	2 70 per dozen.	
			3 dozen scrubs, clamps	2 80 do	
			2 dozen brushes, sweeping	5 75 do	
			2 dozen brushes, dusting	4 75 do	
			8 dozen brooms, corn	2 95 do	
			3 dozen brooms, hickory	2 50 do	
			12 dozen knives	1 75 do	
			12 dozen forks	1 75 do	
			12 dozen spoons, iron or German silver	45 do	
			12 dozen bowls, quart	2 75 do	
			12 dozen plates, soup	2 50 do	
			12 dozen tumblers, tin or metal	1 10 do	
			6 dozen buckets, painted	2 45 do	
			400 pounds nails, assorted, cut	4½ per pound.	
			6 gross screws.....do	50 per gross.	
			2,000 feet, board measure, No. 1 pine lumber	30 00 per 1,000.	
			1,500 feet, board measure, No. 2 pine lumber	25 00 do	
			1,500 feet, board measure, No. 3 pine lumber	17 00 do	
July 15	June 30	Robert K. Neff	6,500 pounds butter, good quality	25 per pound.	

				7,500 pounds sugar, brown	7	do		
				125 gallons best New Orleans molasses	35	per gallon.		
				2,500 pounds coffee	12½	per pound.		
				500 pounds tea, young hyson	50	do		
				2,500 pounds rice, best quality	4½	do		
				2,000 pounds flour, superfine	3	do		
				500 pounds raisins, box	11	do		
				3,000 gallons milk, best quality	17	per gallon.		
				100 pounds mustard, good quality	40	per pound.		
				150 pounds pepper, good quality	16	do		
				8 pounds assorted spices	1 00	do		
				20 bushels salt	50	per bushel.		
				2,500 pounds fish, salt cod	5	per pound.		
				2,000 pounds mackerel, No. 1	7	do		
				50 pounds Indian meal	2	do		
				300 gallons vinegar	15	per gallon.		
				3,500 pickles, assorted	40	per 100.		
				600 pounds starch	9	per pound.		
				500 pounds soda, for washing	4	do		
				6 pounds indigo	1 25	do		
				2,500 pounds soap, best hard	6	do		
				60 barrels best soft soap	2 00	per barrel.		
				60 gallons winter-strained oil	10	per gallon.		
				500 eggs	18	per dozen.		
				2,500 pounds best chewing tobacco	24	per pound.		
				120 bushels oats	60	per bushel.		
				24 bushels corn	80	do		
July	15	June 30	A. E. Smoot	500 barrels best quality wood-burnt lime	98	per barrel.	Washington, D. C.	
July	16	June 30	Eliza Anderson	10 reams cap paper, faint-lined, of the best quality	5 00	per ream.		
				10 reams letter paper, faint-lined 3 sides, best quality	4 50	do		
				5 reams envelope paper, best quality	4 50	do		
				1 ream cap paper, suitable for envelopes	3 00	do		
				1 ream blank bills of lading and invoices, per pattern	15 00	do		
				1 ream blank receipts and invoices do	15 00	do		
				1 ream blank requisition books do	20 00	do		
				1 ream blank half-monthly returns do	20 00	do		
				½ ream blank half-monthly returns. do	20 00	do		
				1 ream blank daily reports do	18 00	do		
				1 ream blank pay-rolls, printed and ruled do	25 00	do		

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 16	1854. June 30	Eliza Anderson—Continued ..	1 ream blotting paper, best	$5 00 per ream...	Washington, D. C.
			1 quire single elephant drawing paper, best quality	3 50 per quire.	
			3 quires double elephant drawing paper...do	6 00 do	
			1 quire double elephant tracing paper....do	8 90 do	
			2 quires antiquarian drawing paper.....do	8 90 do	
			1 quire imperial drawing paper.....do	3 50 do	
			100 yards transparent tracing cloth	75 per yard.	
			6 yards silk glaze, for covering drawings	50 do	
			4 gallons black ink	1 75 per gallon.	
			1 gallon blue fluid	3 00 do	
			2 dozen small bottles carmine red ink	3 00 per dozen.	
			6 dozen pen holders	75 do	
			30 dozen black lead pencils, assorted	75 do	
			10 dozen red tape	75 do	
			½ dozen sticks taste, best quality	25 per dozen.	
			½ dozen sticks India ink, octagon	50 do	
			1 dozen cakes water colors, selected, best quality	50 do	
			1 dozen Rodgers's, or Wastenholm's penknives, best quality	24 00 do	
			½ dozen.....do.....erasers.....do	75 each.	
			2 dozen pieces India rubber, large size.....do	1 50 per dozen.	
			1 dozen blank memorandum books, assorted.....do	5 00 do	
			2 dozen blank books, cap size, per quire.....do	38	
			12 gross steel pens, on cards.....do	3 00 per gross.	
			2 pounds wafers.....do	1 00 per pound.	
			1 pound sealing-wax.....do	1 25 do	
			500 No. 89 quills.....do	3 50 per 100.	
			500 large size envelopes.....do	75 do	
			500 letter size envelopes.....do	50 do	
			25 pounds black sand.....do	10 per pound.	
			2 bundles soapstone slate pencils.....do	25 per bundle.	
			1 full case mathematical instruments.....do	60 00	

			2 pairs paper scissors, or shears.....do.....	75	per pair.
			6 linen towels, large size.....do.....	75	each.
			2 water pitchers.....do.....	75	do
			1 wash basin and ewer.....do.....	1 50	do
			6 glass tumblers.....do.....	2 00	
			1 waiter.....do.....	2 50	
July 18	June 30	Philip Otterback.....	800 cords best quality seasoned pine wood.....	2 98	per cord.
			1,000 hickory tierce poles, to be not less than 9 feet long, and 2 inches in diameter at the butt.....	48 00	per 1,000.
			1,300 barrels best quality sharp building sand.....	3 48	per barrel.
			250 cart loads sand for large castings, 18 bushels to the load, samples furnished.....	68	per load.
			75 cart loads sand for small castings, 15 bushels to the load, samples furnished.....	1 50	do
			75 cart loads sand for cores, 15 bushels to the load, samples furnished.....	60	do
			12 tons best timothy hay.....	19 80	per ton.
			3 tons best rye straw.....	14 00	do
			480 bushels old corn.....	59	per bushel.
			480 bushels oats.....	49	do
July 19	June 30	A. & T. A. Richards.....	200,000 best hard red hand-made bricks.....	7 50	per 1,000.
			5,000 best Berry's premium fire bricks.....	40 00	do
July 20	June 30	S. G. Bogert.....	4 girders, each 64 feet long, 9½ by 16 inches:		
			8 rafters, each 37 feet long, 9½ by 14½ inches by 10 inches;		
			4 beams, each 15 feet long, 9½ by 12 inches;		
			8 braces, each 17 feet long, 9½ by 7 inches;		
			8 braces, each 12 feet long, 9½ by 7 inches;		
			120 per lines, each 17 feet long, 4 by 6 inches;		
			2 posts, each 12 feet long, 9½ by 17 inches;		
			8 posts, each 16 feet long, 9½ by 17 inches;		
			8 posts, each 15 feet, 9½ by 16 inches;		
			To be of the best Susquehanna seasoned white pine—		
			15,660 feet, board measure.....	25 00	do
			58,000 feet, board measure, 1-inch white pine common cullings, in 16-feet lengths.....	16 00	do
			28,000 feet, board measure, 2-inch white pine common cullings, in 16-feet lengths.....	16 00	do
			14,000 feet, board measure, 1-inch white pine prime boards, in 16-feet lengths.....	40 00	do

Y. & D.—No. 8—Continued.

Date.	Expiration	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 20	June 30	S. G. Bogert—Continued.....	14,000 feet, board measure, 2-inch white pine prime boards, in 16-feet lengths.....	$40 00 per 1,000...	Washington, D. C.
			5,000 feet, board measure, 3 by 4-inch Carolina yellow pine scantling, in 16-feet lengths.....	25 00 do	
			5,000 feet, board measure, 3 by 4-inch Carolina yellow pine scantling, in 20 feet lengths.....	25 00 do	
			2,000 feet, board measure, 4 by 4-inch Carolina yellow pine scantling, in 20-feet lengths.....	25 00 do	
			3,000 feet, board measure, 3 by 12-inch Carolina yellow pine joist, in 16-feet lengths.....	25 00 do	
			2,500 feet, board measure, 3 by 12-inch Carolina yellow pine joist, in 20-feet lengths.....	25 00 do	
			6,000 feet, board measure, 1⅛ by 5-inch Carolina yellow pine dressed flooring, in 20-feet lengths.....	35 00 do	
			2,000 feet, board measure, 1¼ by 12½-inch Carolina yellow pine dressed flooring, in 16-feet lengths.....	25 00 do	
			350 white oak cart spokes in the rough, 3 feet long by 2 inches thick.....	5 00 per 100.	
			40 black gum hubs in the rough, 16 inches long by 10 inches in diameter.....	1 00 each.	
July 20	June 30	Storer & Stephenson.....	300 feet 3 by ⅜-inch flat bar iron, 1,140 pounds.....	5 per pound.	
			150 feet 2½ by ¾-inch flat bar iron, 950 pounds.....	4 do	
			100 feet 1¼ by ⅜-inch flat bar iron, 158 pounds.....	5 do	
			2,000 pounds ½-inch square bar iron.....	4 do	
			1,000 pounds ⅜-inch square bar iron.....	5 do	
			900 pounds large size blister steel, best quality.....	10 do	
			300 pounds assorted size shear steel..do.....	15 do	
			150 pounds 3 by ½-inch .....do.....do.....	20 do	
			600 pounds 2-inch square cast steel...do.....	15 do	
			600 pounds 1¼-inch.....do.....do.....	15 do	
			600 pounds 1½-inch.....do.....do.....	15 do	

500 pounds 1⅞-inch....do....do	16	do
500 pounds 1½-inch....do....do	16	do
500 pounds 1¼-inch....do....do	16	do
500 pounds 1⅛-inch....do....do	17	do
500 pounds 1-inch....do....do	18	do
500 pounds ⅞-inch....do....do	18	do
500 pounds ¾-inch....do....do	18	do
400 pounds ⅝-inch....do....do	20	do
200 pounds ½-inch....do....do	20	do
50 pounds ¼-inch....do....do	20	do
300 pounds 5-inch cut iron spikes	5	do
300 pounds 40-penny cut iron nails	5	do
500 pounds 30-penny....do	4	do
800 pounds 20-penny....do	4½	do
1,000 pounds 12-penny....do	4½	do
1,200 pounds 10-penny....do	4	do
800 pounds 8-penny....do	5	do
500 pounds 6-penny....do	5	do
300 pounds 4-penny....do	5	do
300 pounds 3-penny....do	6	do
10 pounds horse-shoe nails	30	do
10 pounds ox-shoe nails	30	do
336 pounds 1-inch hoop iron	5	do
168 pounds ¾-inch hoop iron	5	do
4 pounds 3½ coopers' rivets	50	do
6,000 pounds pure white lead, in oil	8	do
2,000 pounds....do....dry	7	do
1,200 pounds pure Spanish whiting, dry	1	do
800 pounds....do....brown...do	2	do
300 pounds pure yellow ochre....do	5	do
200 pounds pure litharge....do	6	do
50 pounds pure lampblack....do	6	do
420 gallons pure linseed oil, raw	70	per gallon.
30 gallons pure spirits turpentine	70	do
15 gallons best quality copal varnish	2 00	do
1,900 lights best quality 10 by 12-inch glass, to be equal to the best Baltimore make	10	per light.
300 lights best quality 10 by 14-inch glass, to be equal to the best Baltimore make	10	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 20	1854. June 30	Storer & Stephenson—Cont'd.	300 lights best quality 12 by 15-inch glass, to be equal to the best Baltimore make	$0 10 per light.	Washington, D. C.
			100 lights best quality 12 by 18-inch glass, to be equal to the best Baltimore make	10 do	
			600 lights best quality 11 by 15-inch glass, to be equal to the best Baltimore make	10 do	
			600 gallons best quality winter-strained sperm oil	1 25 per gallon.	
			400 gallons best quality neatsfoot oil	90 do	
			10 gallons best quality sweet oil	2 00 do	
			5,000 pounds oakum, suitable for wiping machinery, &c	5 per pound.	
			300 pounds....do.....do.....caulking, best quality	6 do	
			10 pounds red chalk	10 do	
			200 pounds white chalk	1 do	
			20 pounds white marline, best quality.	25 do	
			300 pounds packing yarn	18 do	
			10 pounds shoe thread	1 00 do	
			10 pounds rotten stone	10 do	
			400 pounds clean tallow	12 do	
			25 pounds flour of emery	12 do	
			20 pounds 2d cut emery	12 do	
			20 pounds 3d....do	10 do	
			20 pounds 4th ...do	10 do	
			150 pounds Irish glue	20 do	
			50 pounds gum shellac	20 do	
			6 pounds gum arabic	25 do	
			50 pounds refined borax	40 do	
			50 pounds braziers' solder	40 do	
			2 pounds fine sponge	1 00 do	
			50 pounds antimony	20 do	
			50 pounds Mt. Eagle Tripoli	10 do	
			3 barrels pitch	5 00 per barrel.	

5 barrels tar	4 00	do
1 barrel rosin	5 00	do
8 barrels sour or condemned flour	5 00	do
6 dozen best long-handled shovels	12 00	per dozen.
4 dozen best short-handled shovels	12 00	do
4 dozen best short-handled moulders' shovels	12 00	do
1 dozen best spades	10 00	do
½ dozen best glaziers' knives	10 00	do
4 dozen best double dusters	10 00	do
1 dozen best hand brushes	10 00	do
½ dozen best large size sweeping brushes	12 00	do
6 dozen best 00000 ground paint brushes	10 00	do
6 dozen best No. 7 ground paint tools	3 00	do
3 dozen best fitches	4 00	do
1 dozen best camels'-hair fitches	3 00	do
6 dozen best camels'-hair pencils, assorted	1 00	do
½ dozen best glue brushes	4 00	do
12 dozen best corn brooms	3 00	do
8 dozen best hickory brooms	2 00	do
2 dozen best 8-knot whitewash brushes	12 00	do
¼ dozen best large size varnish brushes	8 00	do
1 dozen best double-jointed 2-foot rules	5 00	do
½ dozen best scrubbing brushes	2 00	do
1½ dozen best hand-vices, assorted sizes	10 00	do
1 dozen spring callipers, best quality	10 00	do
1 dozen jointed compasses, best quality	6 00	do
1 dozen assorted sizes screw wrenches, best quality	20 00	do
6 boxes sperm candles, best quality, 180 pounds	30	per pound.
2 bolts No. 2 cotton canvas, 50 yards to the bolt	12 00	per bolt.
28 sides heavy belt leather	5 00	per side.
20 sides heavy bellows leather	4 00	do
4 sides heavy pump leather, 28 pounds to the side	25	per pound.
3 reams assorted sand paper, best quality	5 00	per ream.
2 reams..do....emery..do....do	5 00	do
1 pallet knife, 14 inches in the blade	1 00	each
1.....do.....6..do.....do	1 00	do
2 packages heavy gold leaf, best quality, deep shade	10 00	per package.
12 braziers' bellows, best	5 00	each.
15 gallons best spirits of wine	1 00	per gallon.

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 20	1854. June 30	Storer & Stephenson—Cont'd.	12 No. 2 iron wire sieves, best quality	$0 50 each	Washington, D. C.
			8 No. 4..do....do.....do	50 do	
			8 No. 8..do....do.....do	50 do	
			6 No. 2 brass...do.....do	1 00 do	
			12 No. 4.do....do.....do	1 00 do	
			6 No. 8..do....do.....do	1 00 do	
			12 No. 20.do....do.....do	1 00 do	
			8 dozen 16-inch hand smooth files	10 00 per dozen.	
			20 dozen 14-inch..do.....do	5 00 do	
			20 dozen 12-inch..do.....do	5 00 do	
			20 dozen 10-inch..do.....do	4 00 do	
			12 dozen 8-inch...do.....do	4 00 do	
			6 dozen 6-inch....do.....do	4 00 do	
			30 dozen 16-inch bastard files	8 00 do	
			30 dozen 15-inch.....do	5 00 do	
			50 dozen 14-inch.....do	6 00 do	
			40 dozen 12-inch.....do	4 00 do	
			25 dozen 10-inch.....do	4 00 do	
			20 dozen 8-inch.....do	4 00 do	
			10 dozen 6-inch.....do	3 00 do	
			20 dozen 16-inch half-round bastard files	5 00 do	
			25 dozen 14-inch....do.....do	4 00 do	
			20 dozen 12-inch....do.....do	5 00 do	
			20 dozen 10-inch....do.....do	4 00 do	
			10 dozen 8-inch.....do.....do	4 00 do	
			10 dozen 6-inch.....do.....do	3 00 do	
			6 dozen 4-inch.....do.....do	3 00 do	
			15 dozen 16-inch....do....smooth files	6 00 do	
			15 dozen 14-inch....do.....do	6 00 do	
			10 dozen 12-inch....do.....do	5 00 do	
			10 dozen 10-inch....do.....do	4 00 do	

8 dozen 8-inch.....do.....do.....	4	00	do
6 dozen 6-inch.....do.....do.....	3	00	do
4 dozen 4-inch.....do.....do.....	3	00	do
6 dozen 18-inch flat rough files.....	10	00	do
6 dozen 16-inch..do.....do.....	10	00	do
4 dozen 14-inch..do.....do.....	8	00	do
4 dozen 12-inch..do.....do.....	8	00	do
10 dozen 14-inch flat bastard files.....	4	00	do
10 dozen 12-inch.do.....do.....	3	00	do
10 dozen 10-inch.do.....do.....	3	00	do
6 dozen 8-inch...do.....do.....	3	00	do
5 dozen 6-inch...do.....do.....	2	00	do
5 dozen 12-inch flat smooth files.....	6	00	do
5 dozen 10-inch..do.....do.....	4	00	do
4 dozen 8-inch...do.....do.....	3	00	do
4 dozen 6-inch...do.....do.....	3	00	do
10 dozen 16-inch round bastard files.....	8	00	do
6 dozen 14-inch.....do.....	5	00	do
4 dozen 12-inch .....do.....	5	00	do
4 dozen 10-inch .....do.....	5	00	do
4 dozen 8-inch .....do.....	3	00	do
4 dozen 12-inch round smooth files	5	00	do
4 dozen 10-inch.....do.....	5	00	do
3 dozen 8-inch.....do.....	4	00	do
3 dozen 6-inch.....do.....	3	00	do
5 dozen 12-inch four-square bastard files	6	00	do
4 dozen 10-inch .....do.....	5	00	do
2 dozen 8 inch .....do.....	5	00	do
6 dozen 12-inch mill-saw files.....	6	00	do
6 dozen 6-inch three-square saw files.....	2	00	do
20 dozen 5-inch .....do.....	1	00	do
20 dozen 4½-inch .....do.....	1	00	do
20 dozen 4-inch .....do.....	1	00	do
20 dozen 3½-inch .....do.....		50	do
10 dozen 3-inch .....do.....		50	do
6 dozen warding files, assorted sizes.....	5	00	do
1 dozen 14-inch horseshoe rasps.....	10	00	do
4 dozen 14-inch hack saw blades.....	10	00	do
1 dozen 28 by ¾ inches upright saw blades.....	10	00	do

Y. & D.—No. 8—Continued.

e.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
3.	1854.				
20	June 30	Storer & Stephenson—Cont'd.	10 gross 3-inch No. 18 iron screws	$1 00 per gross..	Washington, D. C.
			5 gross 3-inch No. 15 ....do	1 00 do	
			4 gross 3-inch No. 12 ....do	1 00 do	
			5 gross 2½-inch No. 16 ....do	1 00 do	
			5 gross 2½-inch No. 14 ....do	1 00 do	
			5 gross 2½-inch No. 12 ....do	1 00 do	
			5 gross 2-inch No. 16 ....do	60 do	
			5 gross 2-inch No 14 ....do	60 do	
			5 gross 2-inch No. 12 ....do	60 do	
			5 gross 1½-inch No. 16 ....do	40 do	
			5 gross 1½-inch No. 14 ....do	40 do	
			5 gross 1½-inch No. 12 ....do	40 do	
			5 gross 1¼-inch No. 14 ....do	40 do	
			5 gross 1¼-inch No. 12 ....do	40 do	
			5 gross 1¼-inch No. 11 ....do	40 do	
			5 gross 1-inch No. 13 ....do	40 do	
			5 gross 1-inch No. 12 ....do	40 do	
			5 gross 1-inch No. 11 ....do	40 do	
			5 gross ¾-inch No. 9 ....do	40 do	
			4 gross ¾-inch No. 8 ....do	50 do	
			6 gross ¾-inch No. 7 ....do	50 do	
			2 gross ½-inch No. 8 ....do	50 do	
			2 gross ½-inch No. 7 ....do	50 do	
			2 gross ½-inch No. 5 ....do	50 do	
			1 box 2-inch Randall's finishing brads, 50 pounds to the box..	5 00 per box.	
			1 box 1¾-inch....do....do	5 00 do	
			1 box 1½-inch....do....do	5 00 do	
			1 box 1¼-inch....do....do	5 00 do	
			1 box 1-inch....do....do	5 00 do	
			½ box ¾-inch....do....do	6 00 do	
			¼ box ⅝-inch....do....do	6 00 do	

				¼ box ¼-inch.....do.....		6 00	do	
				¼ box ⅜-inch.....do.....		8 00	do	
				¼ box ½-inch iron tacks, 50 pounds to the box.....		10 00	do	
				¼ box ⅝-inch....do.....do.....		10 00	do	
				1½ box ¾-inch...do.....do.....		10 00	do	
				¼ box ⅞-inch....do.....do.....		10 00	do	
				2,000 1-inch copper tacks.....do.....		1 00	per M.	
				2,000 ⅛-inch.....do.....		1 00	do	
				40 boxes best roofing leaded tin, 14 by 20 inches, charcoal brand IX.....		12 00	per box.	
				8 mouse-hole anvils, about 200 pounds each.....		15 00	per pound.	
				10 bench vices, best quality, about 75 pounds each.....		20 00	do	
				3 dozen pair 3 by 3-inch Clark's iron butt hinges, tight joints.....		2 00	do	
				3 dozen pair 4 by 4-inch.....do.....		5 00	do	
				3 dozen pair 2½ by 3-inch.....do.....		2 00	do	
				5 dozen 5-inch iron-necked ⅜-square bolts and plates, best quality.....		4 00	do	
				2 dozen 12-inch iron-necked ⅜-square bolts and plates, best quality.....		10 00	do	
				2 dozen assorted plane irons.....		3 00	do	
				1 set wood turning chisels and gouges.....		10 00	per set.	
				2 circular saws, 22 and 18 inches in diameter, medium teeth, best quality.....		10 00	each.	
July 20	June 30	H. S. McCoubs.....		135 running feet patent stretched leather belting, 14 in. wide.....		91	per foot.	
				500 running feet.....do.....3½..do.....		21	do	
				450 running feet.....do.....3..do.....		18	do	
				400 running feet.....do.....2¾..do.....		16½	do	
				300 running feet.....do.....2..do.....		12	do	
				150 running feet.....do.....1¾..do.....		10½	do	
				500 pounds vulcanized rubber, for packing, according to sizes to be furnished.....		50	per pound.	
July 22	June 30	Wm. Lang.....		150 tons (2,240 pounds) No. 1 American gray pig iron.....		39 50	per ton.	
July 25	June 30	Benjamin Thornton.....		8,000 bushels best pine or maple charcoal.....		9	per bushel.	
July 30	June 30	Elisha Gamage.....		135,000 pounds best timothy and clover.....		1	per lb.	Norfolk.
July 11	June 30	C. Bonsall.....		1,200 pounds best sperm candles.....		35	do	
July				1,500 pounds best tallow....do.....		10	do	
				100 pounds best Castile soap.....do.....		10	do	
				1,000 pounds milled oakum.....		6	do	
				12 pounds finest thread seine twine.....		50	do	

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 11	1854. June 30	C. Bonsall—Continued.....	100 pounds spun cotton	$0 20 per pound.	Norfolk.
			100 pounds cotton wick	50 do	
			20 barrels tar	4 00 per barrel.	
			12 barrels pitch	3 00 do	
			4 barrels turpentine	6 00 do	
			48 ship scrapers	6 00 per dozen.	
			4 dozen iron bound varnish brushes	6 00 do	
			2 dozen tar brushes	6 00 do	
			1 dozen best quality 12-knot whitewash brushes	18 00 do	
			3 dozen corn brooms	5 00 do	
			4 dozen hickory brooms	3 00 do	
			1,000 pounds best white chalk	1 per pound.	
			10 pounds best red....do	20 do	
			1 dozen large chalk-lines, 100 feet long	5 00 per dozen.	
			5 dozen small....do	1 00 do	
			17 dozen ground paint brushes, 0000	5 00 do	
			6 dozen sash tools, assorted	3 00 do	
			4 dozen stock brushes	5 00 do	
			½ dozen varnish brushes, large size	10 00 do	
			2 badger's-hair blenders	1 50 each.	
			4 graining brushes	1 00 do	
			1 set steel combs, for graining	5 00 do	
			2 pounds fine sponge	1 00 per pound.	
			8 reams No. 1 sand paper	2 00 per ream.	
			8 reams No. 2....do	2 00 do	
			25 pounds emery, No. 1	20 per pound.	
			25 pounds emery, No. 2	20 do	
			300 pounds Russia hemp packing	20 do	
			200 feet 2½ inches wide double belting, riveted	15 per foot.	
			200 feet 3½....do....do....do	20 do	
			200 feet 4½....do....do....do	25 do	

			200 feet 5.....do.....do.....do.....	30	do
			250 pounds best glue.....	20	per pound.
			24 sides lacing leather.....	1 00	per side.
			14 sides belt....do.....	5 00	do
			20 sides pump..do....(about 400 pounds).....	20	per pound.
			500 pounds best India rubber gasket-boards, assorted sizes, $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$ inch thick.....	60	do
			25 bushels clean cow-hair.....	40	per bushel.
Ju'y 11	June 30	Samuel Marsh.....	2,925 casks most approved fresh manufactured hydraulic cement.....	1 36	per cask.
			20,000 feet, board measure, merchantable white pine 1-inch boards, best quality, 16-feet lengths, free of splits and knots that will come out. They must average 13 inches in width.....	22 50	per 1,000 ft.
			2,000 feet merchantable 1-inch white pine, 12-feet lengths...	22 50	do
			2,100 feet, board measure, 2-inch white pine, 2d quality, clear, 12-feet lengths.....	40 00	do
			500 feet 1-inch mahogany.....	250 00	do
			20,000 feet, board measure, 4-inch sap yellow-pine plank, 14 feet long, to be sawed on both sides and edges.....	17 50	do
			11,000 feet, board measure, sap-pine decking, 4 inches thick, 13 feet long, and to be sawed on both sides and edges....	17 50	do
			3,000 straight sawed laths.....	2 50	do
July 11	June 30	John A. Higgins.....	500 pounds 12-pennny iron cut nails.....	5	per pound.
			1,100 pounds 10-penny.....do.....	5	do
			200 pounds 6-penny.....do.....	5	do
			100 pounds 3-penny iron lathing nails.....	10	do
			50 pounds finishing nails.....	10	do
			2,600 pounds 8-inch wrought-iron spikes.....	6	do
			1,800 pounds bolt-iron, $1\frac{1}{4}$-inch, (wrought).....	6	do
			30 sheets American iron, 7 feet by 3, Nos. 12, 14, 16=300 pounds.....	10	do
			35 sheets American iron, 6 feet by $2\frac{1}{2}$, Nos. 18, 20, 22=200 pounds.....	10	do
			3 bundles Russia iron, Nos. 22 and 24=400 pounds.....	20	do
			700 pounds best inch cast-steel, 8-square.....	15	do
			300 pounds best $\frac{7}{8}$ cast-steel, 8-square.....	15	do
			50 pounds best quality cast-steel 2 inches square.....	25	do
			125..do.....do.....do....$1\frac{1}{2}$....do.....	25	do

Y. & D.—No. 8—Continued.

e.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
3	1854				
11.	June 30.	John A. Higgins—Continued..	175 pounds best quality cast-steel, 1¼ inch square	$0 20 per pound.	Norfolk.
			250..do.....do.....do....1⅛....do	18 do	
			300..do.....do.....do....1....do	16 do	
			300..do.....do.....do....⅞....do	16 do	
			150..do.....do.....do....¾....do	20 do	
			50...do.....do.....do....⅝....do	25 do	
			30...do.....do.....do....½....do	25 do	
			400 pounds English blister steel	8 do	
			300 pounds German steel	10 do	
			25 sheets braziers' copper, 30 to 60 ounces=450 pounds	40 do	
			400 feet drawn lead pipe, ½ to 1½ inch diameter	25 per foot.	
			20 boxes roofing tin, (charcoal brand)	12 00 per box.	
			5 boxes X tin, 14 to 20 ounces	10 00 do	
			25 boxes XX tin, 14 to 20 ounces	10 50 do	
			200 pounds block tin	40 per pound.	
			10 sheets zinc, 16 ounces	3 50 per sheet.	
			10 sheets zinc, 12 ounces	3 50 do	
			600 gallons best winter-strained sperm oil	1 50 per gallon.	
			75 gallons best neatsfoot oil	80 do	
			5 barrels fish oil	15 00 per barrel.	
			500 gallons raw linseed oil	80 per gallon.	
			50 gallons spirits turpentine	1 00 do	
			5,000 pounds dry white lead	7 per pound.	
			500 pounds Spanish whiting	3 do	
			100 pounds Paris green	50 do	
			50 pounds chrome green	50 do	
			100 pounds red lake	20 do	
			2,000 feet best window glass, 10 by 12	6 00 per 100 feet.	
			200....do.....do.....8 by 10	6 00 do	
			150....do.....do.....12 by 14	10 00 do	
			50.....do.....do.....12 by 16	12 00 do	
			100....do.....do.....14 by 18	15 00 do	

July 11	June 30	E. P. Tabb & Co	50.....do.....do.....14 by 16	20 00	de
			12 cross-cut saws 4½ feet long, best quality	2 00	each.
			24 mill-saws, 6½ feet long.....do	4 00	do
			16 handsaws	75	do
			5 dozen 12-inch hack-saw blades, fine cut	3 00	per dozen
			1 dozen 14-inch....do.....do	6 00	do
			1 dozen 24-inch....do.....do	6 00	do
			4 hack-saw frames	75	each.
			24 screw wrenches, large size	3 00	do
			24.....do.....assorted	2 00	do
			3 dozen 16-8 inch twist augers, without screws, L'Hommedieu's make	9 00	per dozen.
			3 dozen 15-8 inch twist augers, without screws, L'Hommedieu's make	9 00	do
			5 dozen 14-8 inch twist augers, without screws, L'Hommedieu's make	9 00	do
			5 dozen 10-8 inch single twist augers, without screws, L'Hommedieu's make	10 50	do
			10 dozen 9-8 inch single twist augers, without screws, L'Hommedieu's make	10 00	do
			10 dozen 7-8 inch single twist augers, without screws, L'Hommedieu's make	1 00	do
			10 dozen 6-8 inch single twist augers, without screws, L'Hommedieu's make	8 00	do
			10 dozen 8-8 1-16 inch single twist augers, without screws, L'Hommedieu's make	1 00	do
			5 dozen 9-8 1-16 inch single twist augers, without screws, L'Hommedieu's make	1 00	do
			5 dozen 7-8 1-16 inch single twist augers, without screws, L'Hommedieu's make	7 50	do
			10 dozen 9-8 inch centre bitts	10 00	do
			10 dozen 7-8.....do	5 00	do
			2 dozen 5-8 inch single twist augers, with screws	7 00	do
			2 dozen 5-8 1-16 inch...do.....do.....do	5 00	do
			2 dozen 6-8 inch .....do.....do.....do	7 00	do
			2 dozen 6-8 1-16 inch...do.....do.....do	1 00	do
			2 dozen 7-8 inch.....do.....do.....do	6 00	do
			1 dozen 8-8 inch.....do.....do.....do	6 00	do
			1 dozen 9-8 inch.....do.....do.....do	7 00	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 11	1854. June 30	E. P. Tabb & Co.—Contin'd.	2 dozen firmer cast-steel gouges	$1 50 per dozen.	Norfolk.
			2 dozen.....do.....chisels	1 50 do	
			4 dozen bow-saw blades, 20 and 22 inches long	3 00 do	
			2 dozen key saws	1 00 do	
			2 dozen compass saws	3 00 do	
			4 dozen bench screws, large size	7 00 do	
			2 table saws	1 00 each.	
			6 smoothing planes	50 do	
			4 Hindoostan oil-stones	25 do	
			2 pair stock shears, large size	9 00 per pair.	
			3 pair hand shears	1 00 do	
			3 iron hand braces	50 each.	
			3 hand vices	50 do	
			6 flat pliers	25 do	
			6 cutting pliers	50 do	
			6 round pliers	25 do	
			6 spring callipers	50 do	
			4 dozen screw wrenches	10 00 per dozen.	
			4 best quality mouse-hole anvils, about 300 pounds each	10 per pound.	
			1 iron portable forge, complete	20 00 each.	
			2 broadaxes	2 00 do	
			2 adzes	1 50 do	
			2 gross rivets and burrs	20 per gross.	
			2 sets turners' tools	2 50 per set.	
			2 2-foot folding rules, best quality	50 each.	
			420 pairs iron loose-joint hinges, 2½ by 2½ inches when open, with small joints, and neatly made to match right and left.	4 per pair.	
			12 pairs iron loose-joint hinges, 3½ by 3½ inches when open, to match right and left	12 do	
			36 gross iron inch screws, No. 7	15 per gross.	
			2 gross iron 1½-inch screws, No. 9	40 do	

2 pairs inch standing tongue and groove planes, made with handles and faced with iron	1 50	per pair.
2 small size screw wrenches	75	each.
12 good strong spades, Ames's make	10 50	per dozen.
12.... do.....shovels.....do	10 00	do
12.... do.....hoes .....do	5 00	do
4 dozen iron drawer locks, keys to differ	1 00	do
8 dozen brass .... do.....do	1 00	do
6 dozen brass cupboard locks...do	1 00	do
4 dozen iron.....do.....do	1 00	do
1 dozen brass chest locks, 3½ or 4 inches long	3 00	do
30 pairs 3-inch brass butt hinges and brass pins	15	per pair.
30 pairs 3½-inch.....do.....do	20	do
10 gross 2-inch brass screws, 12, 13, 14, 15—all to be of the best wire	50	per gross.
10 gross 1½-inch brass screws, 12, 13, 14, 15—all to be of the best wire	50	do
12 gross 1¼-inch brass screws, 10, 11, 12, 13, 14—all to be of the best wire	50	do
12 gross 1-inch brass screws, 9, 10, 11, 12, 13—all to be of the best wire	50	do
12 gross ¾-inch brass screws, 6, 7, 8, 9—all to be of the best wire	50	do
12 gross ½-inch brass screws, 3, 4, 5, 6—all to be of the best wire	50	do
12 dozen iron padlocks, keys to differ	1 50	per dozen.
30,000 iron tacks, 4, 6, 8, 10, 12, 14, 16-ounce	10	per M.
1¾-inch right and left, 6-tap, 3 sets of dies, from ⅜ to ¾	2 00	each.
1⅝-inch .....do.....do.....¼ to ⅜	2 00	do
1½-inch .....do.....do.....¼ to ½	2 00	do
30 dozen 14-inch half-round bastard files	6 50	per dozen.
20 dozen 12-inch.....do	5 50	do
16 dozen 10-inch.....do	3 00	do
11 dozen 8-inch.....do	1 50	do
2 dozen 6-inch.....do	1 50	do
8 dozen 14-inch.....do	6 50	do
16 dozen 12-inch....hand bastard files	6 00	do
10 dozen 10-inch.....do	4 50	do
10 dozen 8-inch.....do	2 50	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853. July 11	1854. June 30	E. P. Tabb & Co.—Continued	2 dozen 6-inch.....hand bastard files.....	$2 00 per dozen.	Norfolk.
			2 dozen 4-inch.....do.....	1 50 do	
			12 dozen 16-inch....square bastard files.....	75 do	
			6 dozen 12-inch.....do.....	75 do	
			6 dozen 10-inch.....do.....	75 do	
			2 dozen ½-inch.....do.....	75 do	
			2 dozen ⅜-inch.....do.....	75 do	
			2 dozen ⅛-inch.....do.....	75 do	
			6 dozen 16-inch.....round bastard files.....	50 do	
			6 dozen 14-inch.....do.....	50 do	
			6 dozen 12-inch.....do.....	50 do	
			4 dozen ½-inch.....do.....	75 do	
			4 dozen ⅜-inch.....do.....	75 do	
			2 dozen ½-inch.....do.....	75 do	
			26 dozen 14-inch.....flat bastard files.....	7 00 do	
			20 dozen 12-inch.....do.....	6 00 do	
			6 dozen 10-inch.....do.....	3 00 do	
			3 dozen 8-inch.....do.....	1 50 do	
			2 dozen 4-inch hand, smooth, safe-edge, flat files.....	2 00 do	
			2 dozen 6-inch.....do.....	2 50 do	
			2 dozen 8-inch.....do.....	1 00 do	
			2 dozen 10-inch.....do.....	3 00 do	
			2 dozen 8-inch.....do.....	1 00 do	
			2 dozen 6-inch.....do.....	2 00 do	
			2 dozen 4-inch.....do.....	1 50 do	
			2 dozen ½-inch.....square smooth files.....	50 do	
			2 dozen ⅜-inch.....do.....	50 do	
			2 dozen ⅛-inch round smooth files.....	75 do	
			1 dozen from ⅛ to ½-inch round smooth files.....	75 do	
			½ dozen feather-edge smooth files, assorted.....	1 00 do	
			½ dozen feather-edge dead smooth files, assorted.....	1 00 do	

			½ dozen knife-edge...do...	1	60	do
			½ dozen knife smooth files, assorted...	1	00	do
			1 dozen 12-inch hand dead smooth files...	1	00	do
			1 dozen 8-inch...do...	1	00	do
			1 dozen 12-inch half-round smooth files...	1	00	do
			1 dozen 10-inch...do...	1	00	do
			2 dozen 10-inch ...three-sided files...		75	do
			2 dozen 8-inch...do...		75	do
			2 dozen 6-inch...do...		75	do
			2 dozen 3-inch...do...		50	do
			6 dozen assorted round and three-sided files...		75	do
			½ dozen 8-inch Stubbs's hand smooth files...	1	00	do
			½ dozen 6-inch...do...	1	00	do
			½ dozen 4-inch...do...	1	00	do
			½ dozen 8-inch Stubbs's dead smooth files...	1	00	do
			½ dozen 6-inch...do...	1	00	do
			½ dozen 4-inch...do...	1	00	do
			½ dozen 8-inch Stubbs's half-round smooth files...	1	00	do
			½ dozen 6-inch...do...	1	00	do
			½ dozen 4-inch...do...	1	00	do
			½ dozen 4-inch Stubbs's three-sided files...	1	00	do
			½ dozen 6-inch...do...	1	00	do
			½ dozen round smooth files, assorted...	1	00	do
			½ dozen dead-smooth files, assorted...	1	00	do
			10 dozen wood files from 3 to 6 inches...		50	do
			1 gross 14-inch mill-saw files, best quality...	72	00	per gross.
			1 gross 12-inch...do...	54	00	do
			4 gross crosscut-saw files, best quality...	18	00	do
			2 gross pit-saw files, best quality...	8	00	do
			10 gross hand-saw files, best quality...	20	00	do
			1 gross sash-saw files...do...	9	00	do
			2 gross tennon-saw files...do...		75	per dozen.
			7 dozen cabinetmakers' rasps...		75	do
			4 dozen plumbers' rasps...		75	do
July 13	June 30	William Etheredge...	600 square yellow-pine piles, 45 feet long, 14 by 13 inches...	9	25	each.
			62...do ...do...45...do...12 by 13...do...	9	00	do
			26 square yellow-pine stocks 45...do...12 by 13...do...	9	50	do
			40 pieces yellow-pine stocks 33...do...12 by 13...do...	6	50	do
			60...do...do...15...do...13 by 11...do...	3	00	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	1854.				
July 13	June 30	Wm. Etheredge—Continued..	525 round pine piles, 45 feet long, to be 12 inches at the large end and not less than 8 inches at the small end, and to be very straight	$1 80 each.	Norfolk.
			397 round pine piles, 40 feet long, 12 inches at the large end and not less than 8 inches at the small end, and to be very straight	1 30 do	
			300 round pine piles, 25 feet long, 12 inches at the large end and not less than 8 inches at the small end, and to be very straight	90 do	
			1,800 lineal feet of pine wharf logs, 16 and 20 feet lengths, 12 to 15 inches wide, to be hewed straight, and to dress 10 inches thick	8 per lineal ft.	
			1,250 lineal feet pine wharf logs, 16 and 20 feet lengths, 12 to 16 inches wide, to be hewed straight, and to be 10 inches thick when dressed	8 do	
July 13	June 30	Vickery and Griffith	24 sheets Columbian drawing paper	10 per sheet.	
			24 sheets medium....do	3 do	
			32 sheets antiquarian....do....Whatman's	50 do	
			8 yards Whatman's roll drawing paper, widest size	25 do	
			44 sheets double elephant....do....do	13½ do	
			48 sheets imperial....do....do	7 do	
			50 sheets double elephant tracing paper	21 do	
			8 yards best tracing cloth, widest size	30 do	
			1 pound manufactured India rubber		
			2 dozen pieces patent prepared India rubber		
			12 gross large size envelopes		
			6 gross small....do		
			2 reams enveloping paper		
			3 6-quire blank books, ruled for semi-monthly reports, per sample		
			19 quires blank forms		

			2 dozen memorandum books, 5 to 7½ inches, sheep covers		
			1 dozen Newman's colors, assorted		
			2 dozen German silver draughting tacks		
			10 gross Faber's drawing pencils, assorted from No. 4 to No. 2.		
			1 ..... do ..... do ..... do ..... best quality		
			30 reams cap paper, best quality, blue laid, per sample		
			10 reams letter paper .. do ..... do ..... do		
			2 reams blotting paper		
			2 reams blank pay rolls, per sample		
			2 reams muster rolls ..... do		
			2,000 best quality opaque quills		
			2,000 best quality clarified quills		
			20 gross best quality Gillott's barrel pens		
			10 gross best quality Warren's steel pens		
			6 dozen bottles best quality black ink		
			2 ..... do ..... do ..... do .. Harrison's		
			½ ..... do ..... do ..... red ink		
			1 dozen penknives, 4 blades, best quality		
			½ dozen erasers		
			12 dozen pieces red tape		
			1 ..... do ..... silk taste		
July 15	June 30	Avery E. Smoot	245 casks most approved and fresh manufactured wood-burnt stone lime	1 09½	per cask.
			1 cask calcined plaster of Paris	3 00	do
July 15	June 30	Wm. A. Lowell	17,700 bushels clean angular fresh-water sand	6	per bushel.
July 18	June 30	Elvin Caizer	3,000 bushels charcoal	10	do
July 19	June 30	Gault & Christy,	255,000 best quality regular plain hard-burnt bricks	8 75	per M.
			5,000 most approved fire bricks	36 00	do
			25 casks best fire clay	1 50	per cask.
			4,118 perches best quality stone, (granite,) natural beds, suitable for walls, averaging 8 feet thick	2 28	per perch.
			245 perches building stone, best quality, natural beds, for walls, averaging 2 feet thick	2 25	do
			230 lineal feet coping stone, (granite,) to work 3 feet broad, 1 foot thick, length 4 to 6 feet	1 65	per lineal ft.
			395 lineal feet granite coping, to work 5 feet broad, 1 foot thick, same lengths, and all clear of shakes	3 25	do
			1,050 lineal feet best quality freestone, in lengths 4 to 6 feet, clear of veins and shakes, 18 inches broad, 6 inches thick	55	do

Y. & D.—No. 8—Continued.

Date.	Expiration.	Names.	Articles.	Rate.	Where deliverable.
1853.	185				
July 21	Ju304	William Tatem	2,500 bushels hominy meal	$0 63 per bushel.	Norfolk.
			700 bushels oats	54½ do	
			5 tons wheat straw	12 00 per ton.	
Sept. 12	June 30	Crowell Noe	For materials and labor for building cemetery wall and dead-house	4,795 00	
Aug. 5	June 30	S. H. Lamb & Co	10 reams best quality ruled letter paper	6 00 per ream.	Memphis.
			10 reams.....do.....cap.....do	7 00 do	
			4 quires envelope paper	40 per quire.	
			1 quire imperial drawing paper	3 50 do	
			1 quire atlas.....do	6 00 do	
			2 quires tracing paper, 40 by 26 inches	12 00 do	
			600 quills, No. 80, best quality	4 00 per 100.	
			4 gross best metallic pens	1 50 per gross.	
			4 dozen pen-holders	50 per dozen.	
			1 dozen pint bottles best black ink	3 00 do	
			½ dozen bottles French carmine red ink	5 00 do	
			2 dozen papers black sand	50 do	
			3 dozen blank books, 8vo., No. 9	4 50 do	
			1 dozen pieces India rubber	75 do	
			12 dozen black lead pencils, best quality	1 00 do	
			2 dozen bolts taste	3 00 do	
			4 dozen bolts linen tape, red	50 do	
			4 pounds red sealing wax, best quality	1 50 do	
			500 envelopes, assorted sizes	50 do	
Aug. 6	June 30	Baxter & Co	1,650 feet 1-inch cypress sheeting	30 00 per M feet.	
			900 feet 1½-inch yellow pine flooring	50 00 do	
			150 feet 2-inch white pine plank	50 00 do	
			18,720 feet, board measure, cypress, 30 feet long, 12 by 12	35 00 do	
			21,600.....do.....do.....6 by 12	30 00 do	
Aug. 6	June 30	J M. Wood	364 piles, each 30 feet long, 12 inches diameter at middle, (10,920)	12 per lineal ft.	

Aug. 6	June 30	W. A. Bickford	139,000 best hard-burnt red bricks	16 00	per M.
			180 barrels best Louisville cement, in barrels of 300 pounds.	4 25	per barrel.
			3,931 bushels clean sharp sand	10	per bushel.
			16,000 pounds best quality hay	55 00	per ton.
			600 bushels corn	90	per bushel.
			600 bushels oats	60	do
			6 bushels salt	1 00	do
			2,000 pounds sheaf oats	1½	per pound.
Aug. 6	June 30	J. M. Graves	100 barrels unslacked lime, (St. Genevieve)	2 40	per barrel.
			100 bushels charcoal	20	per bushel.
			2,590 pounds pig lead	10	per pound.
			48 pounds sheet copper, 30 by 60 inches, No. 12	40	do
			15 boxes X tin	15 00	per box.
			75 pounds block tin	50	per pound.
			5 dozen 14-inch bastard files	12 00	per dozen.
			4 dozen 14-inch half-round bastard files	14 00	do
			4 dozen 14-inch finishing files	15 00	do
			4 dozen 10-inch 3-square files	2 50	do
			½ dozen horse rasps	4 50	do

JOS. SMITH.

BUREAU OF YARDS AND DOCKS, *October* 17, 1853.

Y. & D.—No. 9.

Abstract of offers (embracing as well those rejected as those accepted) received for furnishing articles coming under the cognizance of the Bureau of Yards and Docks during the fiscal year ending June 30, 1854; made in conformity to the act of Congress approved March 3, 1843.

OFFERS FOR SUPPLIES FOR THE NAVY YARD, PORTSMOUTH, N. H., UNDER ADVERTISEMENT DATED MAY 17, 1853.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 1.—*Bricks.*	
Enoch Pinkham	*$1,723 10
CLASS No. 2.—*Granite.*	
William C. Brainerd	*1,031 80
Ezra Eames	†627 08
CLASS No. 3.—*Timber.*	
Samuel Adams	*1,243 78
CLASS No. 4.—*Miscellaneous.*	
Bennett & Treadwell	*68 41
Thomas Neil	‡67 37
CLASS No. 5.—*Miscellaneous.*	
Lyman D. Spalding	*227 35
CLASS No. 6.—*Miscellaneous.*	
Ira Haselton	*675 00
CLASS No. 7.—*Copper, tin, and lead.*	
Bennett & Treadwell	*1,102 05
CLASS No. 8.—*Lime and hair.*	
John H. Broughton	130 25
Jeremiah M. Mathes	*111 25

* Accepted. † Informal. ‡ Deficient in quantity.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 9.—*Sand.*	
John H. Broughton	*$75 00
CLASS No. 10.—*Miscellaneous.*	
Bennett & Treadwell	*929 05
Thomas Neil	952 60
CLASS No. 11.—*Miscellaneous.*	
Joseph H. Foster	159 85
John S. Harvey	*154 35
CLASS No. 12.—*Miscellaneous.*	
Jeremiah M. Mathes	*138 00
CLASS No. 13.—*Miscellaneous.*	
Jeremiah M. Mathes	*155 00
John O. Varrell	159 80
CLASS No. 14.—*Miscellaneous.*	
A. W. Walker, jr.	950 00
James Philbrick	*790 00
John O. Varrell	1,196 00
CLASS No. 15.—*Miscellaneous.*	
A. W. Walker, jr.	400 00
James Philbrick	396 00
Charles Robinson, jr.	*364 00
CLASS No. 16.—*Miscellaneous.*	
Lyman D. Spalding	*201 00
CLASS No. 17.—*Miscellaneous.*	
Bennett & Treadwell	*460 00
Thomas Neil	548 31
John O. Varrell	501 50

* Accepted.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 18.—*Removing earth and stone.*	
Augustus W. Simpson .....(68 cts. per cub. yd.)..	*$3,400 00
Israel Warden & Co. .....(73 cts. per cub. yd.)..	3,650 00
CLASS No. 19.—*Dredging.*	
Augustus W. Simpson.....(†$1 50 per cub. yd.)..	
N. S. Lee.....($1 42 per cub. yard)..	
CLASS No. 20.—*Constructing piers.*	
N. S. Lee	†3,600 00
John Mugridge.....	2,400 00

OFFERS FOR SUPPLIES FOR THE NAVY YARD, BOSTON, MASS., UNDER ADVERTISEMENT DATED JUNE 1, 1853.

CLASS No. 1.—*Bricks.*	
Philander Ames.....	5,460 00
Swett & Burr.....	5,285 00
N. W. Coffin	5,219 00
Oakman & Eldridge	*5,142 50
CLASS No. 2.—*P. and S. lumber and timber.*	
Smith & Hopkins	3,870 50
Robert Todd	2,748 00
Samuel P. Brown	*2,203 00
Oakman & Eldridge	2,335 50
CLASS No. 3.—*Oak and hard-wood timber and lumber.*	
Robert Todd	*2,032 80
Andrew Lunt.....	2,223 10
Oakman & Eldridge	2,038 50
CLASS No. 4.—*White and yellow pine boards and lumber.*	
Smith & Hopkins.....	4,725 00
Robert Todd	4,670 00

* Accepted. † Bureau declined making contract.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 4—Continued.	
Samuel P. Brown	$5,265 00
N. W. Coffin	*4,150 00
Oakman & Eldridge	4,530 00
CLASS No. 5.—*Lime and hair.*	
M. H. Wetherbee	797 00
Robert Todd	741 00
Oakman & Eldridge	*725 00
CLASS No. 6.—*Cement.*	
M. H. Wetherbee	398 00
Oakman & Eldridge	*390 00
CLASS No. 7.—*Iron, iron spikes, and nails.*	
Horton, Hall & Co.	*1,296 10
George Adams	1,464 50
CLASS No. 8.—*Paints, oils, glass, &c.*	
Horton, Hall & Co.	*1,712 00
George Adams	1,850 15
CLASS No. 9.—*Steel.*	
Horton, Hall & Co.	*430 00
George Adams	537 50
CLASS No. 10.—*Files.*	
Horton, Hall & Co.	*381 13
George Adams	454 22
CLASS No. 11.—*Ship-chandlery.*	
Horton, Hall & Co.	*991 91
George Adams	1,322 92
CLASS No. 12.—*Hardware.*	
Horton, Hall & Co.	*1,063 47

* Accepted.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 13.—*Copper.*	
Horton, Hall & Co.	*$325 00
George Adams	410 00
CLASS No. 14.—*Stationery.*	
McKim & Cutter	*361 80
CLASS No. 15.—*Sand.*	
M. H. Wetherbee	*278 00
Oakman & Eldridge	341 00
CLASS No. 16.—*Charcoal.*	
Oakman & Eldridge	*240 00
CLASS No. 17.—*Gum-elastic packing.*	
Horton, Hall & Co.	*225 00
CLASS No. 18.—*Hay and straw.*	
Philander Ames	1,681 00
Horton, Hall & Co.	*1,645 25
George Adams	1,799 25
Robert Todd	1,893 00
N. W. Coffin	1,660 00
Oakman & Eldridge	1,845 50
CLASS No. 19.—*Provender.*	
George Todd	785 00
John L. Eaton	790 00
Nathan Tufts	775 00
Oakman & Eldridge	*775 00
CLASS No. 20.—*Paving-stones and gravel.*	
Philander Ames	585 00
Oakman & Eldridge	*523 50

* Accepted.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
Class No. 21.—*Slate.*	
C. Boynton	$2,790 00
Horton, Hall & Co	2,970 00
George Adams	*2,390 00
M. H. Wetherbee	2,700 00
N. W. Coffin	2,700 00
Oakman & Eldridge	4,500 00
Class No. 22.—*Granite.*	
E. C. Sargent	12,596 65
B. Colburn	11,538 70
M. H. Wetherbee	*10,844 28
Peirce & Rowe	15,609 63
Newcomb & Chapin	12,721 55
Granite Railway Company	11,954 60
Class No. 23.—*Pine and spruce timber.*	
Smith & Hopkins	4,103 43
N. W. Coffin	*3,670 64
Oakman & Eldridge	4,027 70

OFFERS FOR SUPPLIES FOR THE NAVY YARD, NEW YORK, UNDER ADVERTISEMENT DATED JUNE 1, 1853.

Class No. 1.—*Files.*	
James Ludlum	*833 92
Geo. G. Glasier	1,046 61
Storer & Stephenson	861 60
C. S. Storms	842 44
Class No. 2.—*Steel.*	
G. F. Cobb & Co	408 00
James Ludlum	364 00
Geo. G. Glasier	*345 00
Storer & Stephenson	366 00

* Accepted.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
Class No. 3.—*Iron.*	
G. F. Cobb & Co.	$215 00
Storer & Stephenson.	*195 00
Class No. 4.—*Hardware, &c.*	
Geo. G. Glasier	2,194 35
Storer & Stephenson	*2,096 81
C. S. Storms.	2,718 13
Class No. 5.—*Ship-chandlery.*	
Geo. G. Glasier	*2,551 84
Storer & Stephenson.	2,678 80
C. S. Storms.	3,362 18
Class No. 6.—*Provender.*	
Geo. W. Beavers.	2,866 20
F. A. Southmayd.	*2,028 50
Thos. Mulligan.	2,396 15
Storer & Stephenson.	3,105 00
C. S. Storms.	*2,270 10
Class No. 7.—*Paints, oils, glass, &c.*	
Kennedy & Hill.	4,031 68
Storer & Stephenson.	*3,775 44
C. S. Storms	3,933 91
Class No. 8.—*Fire-engine, hose, &c.*	
L. Button & Co.	1,750 00
Storer & Stephenson.	3,300 00
C. S. Storms.	*2,150 00
Class No. 9.—*Lime.*	
Samuel J. Seely.	*262 50
Storer & Stephenson.	350 00

* Accepted.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
Class No. 10.—*Cement.*	
Hudson River Cement Company	$375 00
Lawrence Cement Company	*312 50
William Work	375 00
Storer & Stephenson	450 00
Class No. 11.—*Stone.*	
Henry Harteau	*749 00
Edmund B. Peet	1,037 50
William Work	850 00
Storer & Stephenson	1,100 00
Class No. 12.—*Bricks.*	
C. J. Bogardus	478 40
Henry Harteau	496 00
Edmund B. Peet	*460 00
William Work	500 00
Storer & Stephenson	720 00
C. S. Storms	470 00
S. G. Bogert	640 00
Class No. 13.—*Lumber, &c.*	
M. H. Keith & Co	1,797 75
Storer & Stephenson	2,957 00
S. G. Bogert	*1,422 80
Class No. 14.—*Iron-work.* No bid received.	
Class No. 15.—*Charcoal.*	
Felix Devlin, jr	380 00
William Work	*1,000 00
Storer & Stephenson	580 00
Felix Devlin	560 00
Class No. 16.—*Stationery.*	
Nathan Lane & Co	1,152 03
McSpeden, Baker & Co	*1,137 01

*Accepted.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 17.—*Sand.*	
Dodd & Faurot	$450 00
Edmund B. Peet	*240 00
Terus Brady	450 00
Storer & Stephenson	600 00

OFFERS FOR SUPPLIES FOR THE NAVY YARD, PHILADELPHIA, UNDER ADVERTISEMENT DATED MAY 17, 1853.

CLASS No. 1.—*Stone.*	
Lester D. Fuller	*4,140 00
Samuel Adams	5,874 00
CLASS No. 2.—*Timber and lumber.*	
Doughten & Wilson	3,773 77
Lester D. Fuller	*3,501 77½
CLASS No. 3.—*Cut-nails.*	
James Lesley, jr	*14 96
CLASS No. 4.—*Miscellaneous.*	
Michael Wise	1,103 00
James Harrison	946 37
George S. Weaver & Co	*896 00
CLASS No. 5.—*Miscellaneous.*	
James Lesley, jr	*165 57
CLASS No. 6.—*Iron.* No bid received.	
CLASS No. 7.—*Stationery.*	
John C. Clark	†338 71
Wm. H. Maurice	*300 68
Joseph Hufty	303 43

* Accepted. † Informal.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 8.—*Yellow-pine wood.*	
Lester D. Fuller	*$237 50
Wm. F. Misky	250 00
Michael Wise	275 00
CLASS No. 9.—*Gravel.*	
Lester D. Fuller	*875 00
Wm. F. Misky	1,250 00
Samuel Crans	1,440 00
CLASS No. 10.—*Hay and straw.*	
Lester D. Fuller	414 00
Wm. F. Misky	450 00
Charles F. Hollingshead	*348 50
Samuel Crans	549 00
CLASS No. 11.—*Corn, oats, &c.*	
Lester D. Fuller	*202 00
Wm. F. Misky	232 60
Samuel Crans	344 75
CLASS No. 12.—*Files and rasps.*	
Doughten & Wilson	160 78
Michael Wise	148 74
James Lesley, jr	*119 82
CLASS No. 13.—*Steel.* No bid received.	
CLASS No. 14.—*Miscellaneous.*	
Michael Wise	1,219 27
James Harrison	1,205 35
James Lesley, jr	*1,085 88

*Accepted.

Y. & D.—No. 9—Continued.

OFFERS FOR SUPPLIES FOR THE NAVAL ASYLUM, PHILADELPHIA, UNDER ADVERTISEMENT DATED MAY 17, 1853.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 1.—*Miscellaneous.*	
Daniel Clifflon	$4,232 50
Andrew Robeno	4,917 50
Samuel Crans	4,372 75
A. E. Patton	*4,163 12½
CLASS No. 2.—*Hats, &c.*	
William Muldoon	*1,281 75
Samuel Crans	1,414 85
CLASS No. 3.—*Meat, &c.*	
John Horsfull	7,038 40
John Crist	6,628 25
Christian Heiskley	†5,514 75
Theodore Bond	7,275 00
Samuel Crans	7,714 25
David Woelpper	*5,821 75
CLASS No. 4.—*Groceries.*	
William C. Stephenson	4,298 60
John K. Graham	4,561 36
John Horsfull	6,312 58
Robert K. Neff	*4,266 00
Theodore Bond	4,420 65
William L. Maddock	4,681 83
CLASS No. 5.—*Blankets, &c.* No bid received.	
CLASS No. 6.—*Bread, &c.*	
Frederick Scheidt	*1,180 00
John K. Graham	1,206 00
John Horsfull	1,386 25
CLASS No. 7.—*Tobacco.*	
William C. Stephenson	687 50

*Accepted. †No proper guarantors.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 7—Continued.	
John K. Graham	$700 00
John Horsfull	825 00
Robert K. Neff	*600 00
Theodore Bond	700 00
William L. Maddock	750 00
Samuel Crans	675 00
CLASS No. 8.—*Miscellaneous.*	
Doughten & Wilson	*360 80
Robert K. Neff	411 00
CLASS No. 9.—*Oats and corn.*	
Robert K. Neff	*91 20
William F. Misky	108.00
CLASS No. 10.—*Wood and coal.*	
William F. Misky	*87 50
For repairing asylum steps, &c.	
Peter Fritz	*1,000 00
CLASS No. 11.—*Lead, oil, &c.* No bid received.	

OFFERS FOR SUPPLIES FOR THE NAVY YARD, WASHINGTON, UNDER ADVERTISEMENT DATED JUNE 1, 1853.

CLASS No. 1.—*Bricks.*	
William H. Gunnell	1,742 00
Samuel Byington	†1,450 00
A. & T. A. Richards	*1,700 00
CLASS No. 2.—*Stone.*	
S. G. Bogert	‡1,875 00

*Accepted. †Incomplete. ‡Price unreasonable, bureau declined making contract.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 3.—*White and yellow-pine timber and lumber.*	
S. G. Bogert	*$3,642 50
Thomas Blagden	3,883 23
CLASS No. 4.—*Lime.*	
A. E. Smoot	*490 00
Samuel J. Seely	500 00
CLASS No. 5.—*Pig iron.*	
William Lang	*5,925 00
CLASS No. 6.—*Bar iron.*	
Storer & Stephenson	*232 90
CLASS No. 7.—*Steel.*	
S. G. Bogert	1,314 00
Storer & Stephenson	*1,160 00
CLASS No. 8.—*Miscellaneous iron.*	
S. G. Bogert	398 24
Storer & Stephenson	*310 20
CLASS No. 9.—*Paints, &c.*	
Z. D. Gilman	2,504 75
Howell and Morsell	2,542 90
Storer & Stephenson	*2,473 00
A. Hatch, jr	2,661 90
CLASS No. 10.—*Miscellaneous.*	
S. G. Bogert	1,875 42
Storer and Stephenson	*1,549 90
CLASS No. 11.—*Miscellaneous.*	
S. G. Bogert	4,571 96
Storer & Stephenson	*4,278 00

* Accepted.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
Class No. 12.—*Stationery.*	
Eliza Anderson	*$639 77
Class No. 13.—*Wood, &c.*	
William H. Gunnell	2,680 00
Philip Otterback	*2,432 00
A. & T. A. Richards	2,440 00
Class No. 14.—*Charcoal.*	
William H. Gunnell	880 00
Benjamin Thornton	*720 00
Eli Dyer	780 00
Philip Otterback	998 40
Class No. 15.—*Sand.*	
William H. Gunnell	520 00
Philip Otterback	*502 74
James Rustridge	526 25
Class No. 16.—*Belting.*	
H. S. McCombs	*677 51
Class No. 17.—*Hay and Straw.*	
John A. Smith	319 20
William H. Gunnell	281 10
Philip Otterback	*279 60
Class No. 18.—*Provender.*	
Philip Otterback	*520 75

* Accepted

Y. & D.—No. 9—Continued.

OFFERS FOR SUPPLIES FOR THE NAVY YARD, NORFOLK, UNDER ADVERTISEMENT DATED MAY 17, 1853.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 1.—*Bricks.*	
J. Thomas Berry & Co.	†$2,760 00
Cyrus Gault	*2,448 75
A. & T. A. Richards	2,703 75
Charles Pendergast	3,185 00
Samuel M. Latimer	3,246 25
CLASS No. 2.—*Stone.*	
Daniel J. Turner	13,375 65
Edmund B. Peet	40,653 13
Cyrus Gault	*12,181 04
Thomas Butler	†37,210 85
Charles Pendergast	15,074 10
Samuel M. Latimer	14,786 45
For materials and labor for building cemetery wall and dead-house.	
S. M. Latimer	4,921 10
Tabb & Turner	4,900 00
Thomas B. Grose	5,500 00
Crowell Noe	*4,795 00
C. L. Coltman	6,448 00
CLASS No. 3.—*Yellow-pine timber, piles.*	
John Petty	9,920 50
William N. Holstead	9,297 47
William Etheridge	*8,770 10
James N. McAlpine	10,181 25
Snow, Hammond & Co	10,032 50
CLASS No. 4.—*White-pine plank and boards.*	
John Tunis	1,264 50
Samuel Marsh	*1,254 00
William Etheridge	1,317 30
Caleb Bonsal	2,025 00
Snow, Hammond & Co	1,383 50

*Accepted. †Informal.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 5.—*Lime.*	
amage	$288 90
Marsh	320 75
. Smoot	*271 27
onsal	590 55
I. Seely	369 00
CLASS No. 6.—*Cement.*	
amage	*4,650 75
Marsh	4,387 50
H. Locker	†5,557 50
onsal	*3,978 00
I. Seely	5,118 75
CLASS No. 7.—*Iron spikes and nails.*	
Higgins	*481 00
onsal	664 25
CLASS No. 8.—*Steel.*	
Higgins	*481 75
onsal	595 00
CLASS No. 9.—*Copper, lead, and zinc.*	
Higgins	*982 50
onsal	1,062 50
CLASS No. 10.—*Paints, oils, and glass.*	
Higgins	*2,123 00
onsal	2,196 50
CLASS No. 11.—*Ship-chandlery.*	
Higgins	2,269 00
onsal	*1,901 00

*Accepted. †Informal.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
Class No. 12.—*Hardware.*	
Edward P. Tabb & Co	*$1,328 34
Caleb Bonsal	1,544 00
Class No. 13.—*Files.*	
Edward P. Tabb & Co	*1,451 40
Caleb Bonsal	1,529 00
Class No. 14.—*Stationery.*	
R. C. Barclay	411 90
Vickery & Griffith	*270 87
Class No. 15.—*Sand.*	
W. A. Lowell	*1,062 00
Caleb Bonsal	1,770 00
Class No. 16.—*Charcoal.*	
Daniel J. Turner	420 00
Elvin Caizer	*300 00
Caleb Bonsal	1,000 00
Class No. 17.—*Hay.*	
William Tatem	1,664 12½
Keeling & Pratt	1,606 50
Elisha Gamage	*1,539 00
William Etheridge	†1,957 50
Burwell B. Mosely	1,620 00
Caleb Bonsal	2,700 00
Jesse Jones	1,552 50
Class No. 18.—*Provender.*	
William Tatem	*2,016 50
Caleb Bonsal	3,230 00
Jesse Jones	2,053 00

*Accepted. †Informal.

Y. & D.—No. 9—Continued.

OFFERS FOR SUPPLIES FOR THE NAVY YARD, MEMPHIS, UNDER ADVERTISEMENT DATED JUNE 1, 1853.

Names of bidders, &c.	Aggregates of bids.
Class No. 1.—*Bricks.*	
Alexander Wynsom	†$695 00
John Griffin	†2,432 50
Joshua Samson	†2,154 50
James Schailcroft	†2,085 00
W. A. Bickford	*2,224 00
John M. Graves	2,237 90
Class No. 2.—*Lime.*	
Ezra Bradley	†275 00
Joshua Samson	†230 00
James Schailcroft	†300 00
W. A. Bickford	250 00
John M. Graves	*240 00
Class No. 3.—*Sand.*	
Ezra Bradley	†491 37½
Joshua Samson	†491 37½
James Schailcroft	†393 10
W. A. Bickford	*393 10
John M. Graves	452 06½
Class No. 4.—*Pine and cypress lumber.*	
John Griffin	†1,720 80
James Schailcroft	†1,512 30
W. A. Bickford	1,516 20
John M. Graves	1,501 95
John M. Wood	1,941 15
Baxter & Co	*1,405 20
Class No. 5.—*Cement.*	
Ezra Bradley	†900 00
Joshua Samson	†810 00
W. A. Bickford	*765 00
John M. Graves	810 00

* Accepted † Informal.

Y. & D.—No. 9—Continued.

Names of bidders, &c.	Aggregates of bids.
CLASS No. 6.—*Lead, copper, and tin.*	
John M. Graves	*$540 70
CLASS No. 7.—*Charcoal.*	
Joshua Samson	†19 00
James Schailcroft	†20 00
John M. Graves	*20 00
CLASS No. 8.—*Steel, &c.* No bid received.	
CLASS No. 9.—*Piles.*‡	
John Griffin	†1,365 00
Joshua Samson	†1,092 00
W. A. Bickford	1,310 40
John M. Graves	1,365 00
Frederick Baxter	1,310 40
John M. Wood	*1,310 40
CLASS No. 10.—*Files.*	
John M. Graves	*188 25
CLASS No. 11.—*Hay.*	
Joshua Samson	†200 00
James Schailcroft	†200 00
W. A. Bickford	*280 00
CLASS No. 12.—*Corn, oats, and salt.*	
W. A. Bickford	*936 00
John M. Graves	1,006 60
CLASS No. 13.—*Miscellaneous.* No bid received.	
CLASS No. 14.—*Stationery.*	
S. H. Lamb & Co	*241 85

* Accepted. † Informal. ‡ Decided by lot.

JOS. SMITH.

BUREAU OF YARDS AND DOCKS, October 17, 1853.

No. 4.

NAVY DEPARTMENT,
Bureau of Construction, &c., November 1, 1853.

SIR: In compliance with your instructions of the 9th July last, I have the honor to submit, herewith, estimates for the support of those objects for the naval service coming under the cognizance of this bureau for the fiscal year ending on the 30th of June, 1855.

The estimate under the head of increase, repairs, &c., has been increased over that of the current year $274,000. This is deemed necessary to meet the increased expense for fuel for steamers, for rebuilding and converting the ship-of-the-line "Franklin" into a steam propeller, and for fitting and launching the frigate "Sabine" at New York, the foundation for which having been originally built temporarily, and recently reported to be in an unsafe condition to support the ship longer on the stocks without danger of settling, so as materially to alter her shape, and causing her to deteriorate. Besides the additional expense for the supply of fuel for steamers employed on foreign stations, whether the coals are purchased abroad or transported to those distant seas from home, the additional expense in the necessary repairs of those steamers and other vessels thus employed, allowing only for ordinary casualties, will be no unimportant item in the expenditures, and both together will materially swell the amount usually incurred under this head, and with the practice of the most rigid economy, it is believed, will absorb the full amount estimated for.

The estimate for "enumerated contingent" has also been increased over that for the current year $75,000. The reason for this may be found in the general wants of the service, arising from the probability of having a greater number of vessels afloat, and also from the fact that the appropriations for the current and last fiscal years have been found inadequate to meet the actual necessities for objects coming under this head.

Improvement seems to be a prominent characteristic of the age, and hitherto to have signally marked the progress of all the arts and sciences; and at no period in the history of our government has its onward course been more striking than at the present. But improvement in naval architecture seems not to have kept pace with that in other branches of the mechanics; for, but few new ones having been built, the models of most of our ships of war, particularly sailing vessels, remain almost precisely as they were a quarter of a century ago. It is believed, therefore, that a proper regard for the efficiency of our naval ships and a fair competition with those of other navies, as well as sound economy, require the building of more *new* ships, embracing the improvements of the age and profiting by the knowledge of past experience, rather than continuing to make extensive repairs on *old* ones—the expense of which often amounts to nearly the cost of new.

I would, therefore, recommend a system of gradual increase of our ships of war; and in order to keep pace with the spirit of the age, and render our sailing vessels more effectual and efficient by the aid of steam power, I beg to submit an estimate, marked D, for the building of six *first-class steam* propellers, covering the whole expense wher

completed and ready for service; and also showing the amount of materials on hand which can be applied for the purpose, and the sum necessary to be appropriated for the fiscal year ending on the 30th June, 1855, for the commencement of the work.

Since the last annual report, the schooner "Fenimore Cooper" and the storeship "John P. Kennedy" have been purchased and fitted out for the use of the surveying expedition to Behring's Straits and North Pacific ocean. The sloop-of-war "Vincennes," the brig "Porpoise," and the steamer "John Hancock," have also been fitted out at considerable additional expense for the same service.

The steamer "Water-Witch" has also been prepared and fitted out for survey and exploration of the river La Plata and its tributaries.

In pursuance of an act of Congress of 31st August, 1852, instructions were given by direction of the department, in January last, to Mr. Robert L. Stevens to proceed with his contract of 10th February, 1843, for the construction of an iron war steamer; since which the sum of $34,794 64 has been paid him for the purchase of materials, in addition to the sum of $75,689 previously paid him for the same purpose; but no evidence has been received of his having commenced operations on the work.

Accompanying this report will be found tabular statements, showing, besides the tables of estimates, the vessels in commission, those in ordinary, repairing, and equipping, and those on the stocks and in progress of construction; also, the estimated value of stores on hand at the commencement of the current fiscal year, and those expended during the past, as well as the number of days of labor expended, and the cost of the same, for building, repairing, and equipping vessels for the naval service.

The frigates "Macedonian" and the "Constellation" have been razeed to first-class sloops of war, and will be found arranged under that head. The former has been completed, and joined the squadron in the China seas; the latter is still in progress of repairs at the navy yard at Gosport.

But about five tons of American water-rotted hemp have been purchased by the hemp agents since the commencement of the last fiscal year; and the small quantity received under previous contracts has been found unsuitable for naval purposes.

In consequence of the very limited amount produced by hemp-growers of a quality suitable for the naval service, and also of a contract having been made for its annual supply for a series of years, if practicable, the hemp agencies for the States of Kentucky and Missouri were discontinued in February last.

The confident expectations of obtaining an article of American culture, equal at least to the best foreign, have hitherto been disappointed; and, from past experience, it is believed but little reliance can be placed on obtaining much from that source for the present. The bureau would, therefore, beg to suggest whether it would not be sound policy to keep on hand about a year's supply of that article to *meet any* unexpected emergency—such as a short crop, a sudden

increased demand in the foreign market, or European difficulties cutting off importations from abroad.

With high consideration, I have the honor to be your obedient servant,

S. HARTT,
Chief of the Bureau.

Hon. J. C. DOBBIN,
Secretary of the Navy.

A.

Estimate of the amount required for the expenditures of the Bureau of Construction, Equipment, and Repair, for the fiscal year ending on the 30th June, 1855.

For salary of the chief of the bureau	*$3,000
For salary of chief naval constructor	†3,000
For salary of engineer-in-chief	*3,000
For salary of chief clerk, or one of fourth class	†1,800
For salary of seven clerks of second class, including draughtsman	‡8,400
For salary of one clerk, first class	‡900
For salary of one messenger	*700
	20,800

CONTINGENT EXPENSES.

For blank books, binding, stationery, printing, and miscellaneous items	$800
For laborer for the bureau	300
	1,100

NOTE.—Respectfully submitted for an increase of the salary of the chief clerk from $1,400 to $1,700 for the two last fiscal years, for which time the chief clerks for the Bureaus of Provisions and Clothing and Yards and Docks were increased; and to equalize his salary with that of the chief clerks of the bureaus of other departments of the government $600

* Per act of August 31, 1842, pages 579 and 580, vol. 5.
† Per act of March 3, 1847, page 159, vol. 9.
‡ Per act of March 3, 1853, page 210, (pamphlet.)

B.

Estimate for pay of commission, warrant, and petty officers and seamen, including the engineer corps of the navy, required for vessels proposed to be kept in commission, including receiving vessels, for the fiscal year ending 30th June, 1855.

For the fiscal year ending June 30, 1854	$2,102,610
For the fiscal year ending June 30, 1855	2,102,610

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C.

Estimate of the amount required for objects under the directions of this bureau, payable from the appropriation for increase, repairs, &c., of the navy, and for wear and tear of vessels in commission, including fuel for steamers and the purchase of hemp for the navy, for the fiscal year ending the 30th June, 1855.

For the fiscal year ending June 30, 1854	$1,940,950
For the fiscal year ending June 30, 1855	2,214,950

NOTE.—The increase in the above estimate is for the additional expense for fuel, and in repairs of steamers and other vessels employed on foreign service, and for launching the "Sabine," more fully explained in the report.

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D.

Estimate of the sum required for building and equipping six first-class steam propellers	$4,630,626
Materials on hand which can be applied for this purpose	1,389,186
Balance to be provided for	3,241,240
Estimate of the amount required during the fiscal year ending on the 30th June, 1855	$1,080,000

E.

Estimate of the amount required to meet the expenditures under the head of "enumerated contingent," for the fiscal year ending the 30th June, 1855.

For the fiscal year ending 30th June, 1854	$225,000
For the fiscal year ending 30th June, 1855	300,000

NOTE.—The increase in the above estimate is to meet the increase of the general wants of the service, the appropriation for the two last years having been found insufficient.

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RECAPITULATION OF ESTIMATES.

Civil.

Salaries	$20,800
Contingent	1,100

Navy.

Pay of the navy	2,102,610
Increase, repairs, &c	3,294,950
Contingent enumerated	300,000

F.—*Vessels in commission belonging to the navy on the 1st of November, 1853.*

Name of vessel.	Guns.	Men.	Where built.	Date.	Sailed.	What service.
Ships-of-the-line.						
Pennsylvania	120	.....	Philadelphia	1837	.....	Receiving-ship, Norfolk.
North Carolina	74	.....	....do	1820	.....	Receiving-ship, New York.
Ohio	74	.....	New York	1820	.....	Receiving-ship, Boston.
Frigates.						
Constitution	44	400	Boston	1797	.....	Coast of Africa.
Columbia	44	400	Washington	1836	.....	Home Squadron.
Cumberland	44	400	Boston	1842	May 7, 1852	Mediterranean.
St. Lawrence	44	400	Norfolk	1847	Dec. 12, 1851	Pacific.
Savannah	44	400	New York	1842	.....	Brazil.
Sloops.						
Macedonian	20	.....	Captured, 1812; rebuilt	1836	.....	East Indies.
Saratoga	20	164	Kittery	1842	.....	Do.
Vincennes	20	144	New York	1826	.....	North Pacific Exploring Expedition.
Warren	20	.....	Boston	1826	.....	Store-ship, San Francisco.
St. Louis	20	164	Washington	1828	Aug., 1852	Mediterranean.
Cyane	20	164	Boston	1837	Oct. 9, 1851	Home Squadron.
Levant	20	164	New York	1837	July 12, 1852	Mediterranean.
Portsmouth	20	144	Kittery	1843	Dec. 15, 1851	Pacific.
Plymouth	20	164	Boston	1843	Aug. 23, 1851	East Indies.
St. Mary's	20	144	Washington	1844	Oct. 21, 1850	Pacific
Jamestown	20	164	Norfolk	1844	May 31, 1852	Brazil.
Albany	20	164	New York	1846	.....	Home Squadron.
Vandalia	20	144	Philadelphia	1828	.....	East Indies.
Ontario	18	.....	Baltimore	1813	.....	Receiving-ship, Baltimore.
Marion	16	.....	Boston	1839	.....	Coast of Africa.

Dale	16	105	Philadelphia	1839	Aug. 9, 1850	Do.
Preble	16	.....	Portsmouth, N. H.	1839	.....	Practice-ship, Annapolis.
Brigs.						
Dolphin	10	70	New York	1836	.....	Maury's Wind Chart.
Porpoise	10	70	Boston	1836	.....	North Pacific Expedition.
Perry	10	70	Norfolk	1843	.....	Coast of Africa.
Schooners.						
Wave	1	.....	Transferred from War Department	.....	.....	Coast Survey.
Phœnix	2	.....	....do	.....	.....	Do.
Fenimore Cooper	.....	.....	Purchased at New York	.....	.....	North Pacific Expedition.
Steamers.						
Susquehanna	9	280	Philadelphia	1850	June 8, 1851	East Indies.
Mississippi	10	180	....do	1841	1852	Do.
Powhatan	9	280	Norfolk	1850	.....	Do.
Michigan	1	70	Erie, Pa	1844	.....	Lakes.
Union	.....	.....	Norfolk	1842	.....	Receiving-ship, Philadelphia.
Vixen	3	.....	Purchased	1846	.....	Home Squadron.
Water-Witch	2	.....	Washington	1845	.....	River La Plata.
John Hancock	.....	.....	Boston	1850	.....	North Pacific Expedition.
Engineer	.....	.....	Purchased	.....	.....	Norfolk; tender.
Store-ships.						
Relief	6	40	Philadelphia	1836	.....	Brazil.
Lexington	6	.....	New York	1825	.....	East Indies.
Southampton	4	40	Norfolk	1845	.....	Do.
Supply	4	40	Purchased	1846	.....	Do.
Fredonia	4	.....	....do	1846	.....	At Valparaiso.
John P. Kennedy	.....	.....	....do	1853	.....	North Pacific Expedition.

G.

Vessels in ordinary, repairing and equipping, &c.

Name of vessel.	Guns.	Where built.	Date.	Station.
Ships-of-the-line.				
Vermont	74	Boston	1848	Boston.
Columbus	74	Washington	1819	Norfolk.
Delaware	74	Gosport	1820	Do.
Frigates.				
Congress	44	Kittery	1841	New York.
Raritan	44	Philadelphia	1843	Do.
United States	44	Philadelphia	1797	Norfolk.
Potomac	44	Washington	1821	Do.
Brandywine	44	....do	1825	New York.
Independence, razee	54	Boston	1814	Do.
Sloops.				
Falmouth	20	Boston	1827	Norfolk.
Germantown	20	Philadelphia	1846	Boston.
Decatur	16	New York	1839	Do.
Constellation, 1st class	.....	Baltimore	1797	Norfolk.
John Adams	20	Charleston, S. C.	1799*	Boston.
Brigs.				
Bainbridge	10	Boston	1836	New York.
Steamers.				
San Jacinto	6	New York	1850	Philadelphia.
Saranac	6	Portsmouth, N. H.	1848	Norfolk.
Princeton	10	New York Boston—rebuilt	1843 1851	New York.
Alleghany	2	Pittsburg, Pa	1847	Norfolk.
Massachusetts	.....	Transferred from War Department	.....	Norfolk.
Fulton	5	New York	1837	Philadelphia.

* Rebuilt in 1820.

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H.

Vessels on the stocks and in progress of construction on 1st November, 1853.

SHIPS-OF-THE-LINE.

Alabama.....Kittery.
Virginia.....Boston.
New York.....Gosport.
New Orleans.....Sackett's Harbor.

FRIGATES.

Santee.....Kittery.
Sabine.....New York.

STEAMERS.

Stevens's iron steamer .....Hoboken, N. J.
Franklin.....Kittery, rebuilding.

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I.

Statement of the cost or estimated value of stores on hand at the several navy yards July 1, 1852; *of articles received and expended from June* 30, 1852, *to June* 30, 1853, *and of those remaining on hand July* 1, 1853, *under the direction of the Bureau of Construction, Equipment, and Repair.*

Navy yards.	On hand July 1, 1852.	Received.	Expended.	On hand July 1, 1853.
Portsmouth	$668,293 98½	$22,890 47	$21,342 77	$669,841 68½
Boston	1,566,390 49	444,468 31	488,259 39	1,522,599 41
New York	1,349,644 03	403,361 40	381,798 22	1,371,207 21
Philadelphia	444,876 60	74,525 38	76,630 27	442,771 71
Washington	426,114 26	173,742 30	188,692 83	411,163 73
Norfolk	1,614,396 98	343,639 79	336,971 51	1,641,065 26
Pensacola	257,364 33½	8,411 31½	17,254 06½	248,521 58½
Memphis	11,196 03	.....	4,644 00	6,552 03
Total	6,358,276 71	1,471,038 96½	1,515,593 05½	6,313,722 62

K.

Statement of the number of days' labor, and its cost, from the 1*st day of July*, 1852; *to the* 1*st day of July*, 1853, *for the respective navy yards, for building, repairing, and equipping vessels of the navy, or in receiving or securing stores and materials for those purposes.*

Yards.	No. of days' labor.	Cost of labor.	Average per diem.
Portsmouth	7,243¾	$9,519 15	$1 31.4
Boston	106,898	188,332 94	1 76.1
New York	195,167¾	323,212 25	1 65.6
Philadelphia	53,854	81,240 83	1 50.8
Washington	56,546	82,023 53	1 45.0
Norfolk	211,242¼	325,942 51	1 54.3
Pensacola	4,090	6,692 02	1 63.6
Total	635,041¾	1,016,963 23	1 60.1

NAVY DEPARTMENT,
Bureau of Construction, &c., October 20, 1853.

SIR: In conformity with the act of 3d of March, 1843, I respectfully transmit herewith duplicate abstracts of offers received to furnish naval supplies coming under the cognizance of this bureau, exhibiting in scales from No. 1 to 12 inclusive, as well those which were rejected as those accepted, between the 2d November, 1852, (date of last report,) and 1st of November, 1853; and in conformity with the act of 21st of April, 1808, I also transmit herewith duplicate lists of contracts made and received during the same period.

I have the honor to be, sir, with great respect, your obedient servant,
S. HARTT,
Chief of the Bureau.

Hon. J. C. DOBBIN,
Secretary of the Navy.

ABSTRACT OF OFFERS

MADE

To furnish naval supplies coming under the cognizance of the Bureau of Construction, Equipment, and Repair, exhibiting, in scales from No. 1 to No. 12 inclusive, as well those which were accepted as those which were rejected, between November 2, 1852, and November 1, 1853: reported in obedience to an act of Congress of March 3, 1843.

No. 1.

Schedule of prices per Harrison & Loring for steam boilers, &c., for steamer John Hancock	$14,000 00
Schedule of prices per Harrison & Loring for altering boilers of steamer John Hancock	5,000 00
Schedule of prices per Ames & Green for two 6-horse steam engines, and two boilers for the same	1,200 00
Schedule of prices per Murray & Hazlehurst for altering boilers of steamer Princeton	18,500 00
Schedule of prices per Andrew Mehaffey for altering boilers of steamer Alleghany	18,000 00
*Schedule of prices per Grandison Spratt for 1,950 tons American water-rotted hemp, per ton	230 00
Schedule of prices per B. H. Ellicott for tank iron, per pound	6½

*The contractor was authorized, if unable to procure American hemp, to substitute best Russia hemp to the amount of the deficiency, deliverable at Charlestown, at $216 per ton. Cancelled by direction of the Secretary of the Navy, August 8, 1853.

Scale of offers to furnish mast and spar timber, under advertisement by the Bureau of January 24, 1853—one-half deliverable by September 1, 1853, and one-half by March 1, 1854. Offers received to February 28, 1853.

	Bidders.	PORTSMOUTH. For 1 razee, or 3,180 cubic feet.		CHARLESTOWN. For 3 sloops-of-war, or 4,110 cubic feet.		BROOKLYN. For 1 ship-of-the-line, 3 frigates, 3 sloops-of-war, or 15,790 cubic feet.		PHILADELPHIA. For 2 sloops-of-war, or 2,740 cubic feet.		WASHINGTON. For 1 sloop-of-war, or 1,370 cubic feet.		GOSPORT. For 1 ship-of-the-line, 2 sloops-of-war, or 6,440 cubic feet.		PENSACOLA. For 1 frigate, 1 sloop-of-war, jib-boom, &c., 4,691 cubic feet.	
		Price per cub. ft.	Aggregate amount.	Price per cub. ft.	Aggregate amount.	Price per cub. ft.	Aggregate amount.	Price per cub. ft.	Aggregate amount.	Price per cub. ft.	Aggregate amount.	Price per cub. ft.	Aggregate amount.	Price per cub. ft.	Aggregate amount.
1	Samuel B. Grice	$1 50	$4,770 00												
2	Samuel P. Brown	70	2,226 00												
3	James N. McAlpine	40	1,272 00												
4	Abm. M. Bogart	70	2,226 00												
5	Storer & Stephenson	98	3,116 40												
6	John S. Beall	80	2,544 00												
7	John Petty	54	1,717 20												
8	James N. McAlpine			$0 40	$1,644 00										
9	John R. Chapman			48	1,968 00										
10	Abm. M. Bogart			75	3,082 50										
11	Samuel P. Brown			65	2,671 50										
12	John S. Beall			80	3,288 00										
13	Storer & Stephenson			68	2,794 80										
14	John Petty			49	2,013 90										
15	James N. McAlpine					$0 40	$6,316 00								
16	Abm. M. Bogart					60	9,474 00								
17	Samuel B. Grice					1 50	23,685 00								
18	[illegible]el P. Brown					80	12,632 00								
	[illegible] S. Beall					80	12,632 00								
	[illegible] Stephenson					80	12,632 00								
	[illegible]					50	7,895 00								
	[illegible]pine							$0 40	$1,096 00						
	[illegible]							80	2,192 00						
	[illegible]e							1 25	3,425 00						
	[illegible]own							65	1,781 00						
	[illegible]							78	2,192 00						
	[illegible]phenson							68	1,863 20						
	[illegible]							55	1,507 00						
	[illegible]cAlpine									$0 50	$685 00				

30	Samuel P. Brown									60	822 00					
31	Abm. M. Bogart									70	959 00					
32	Samuel B. Grice									1 25	1,712 25					
33	John S. Beall									80	1,096 00					
34	Storer & Stephenson									68	931 60					
35	John Petty									49	671 30					
36	James N. McAlpine											$0 33	$2,125 20			
37	Samuel P. Brown											74	4,765 60			
38	Samuel B. Grice											1 45	9,338 00			
39	John S. Beall											78	5,023 20			
40	John Petty											40	2,576 00			
41	Abm. M. Bogart											50	3,220 00			
42	Storer & Stephenson											80	5,152 00			
43	H. G. Ramsay													$0 38	$1,782 58	
44	Abm. M. Bogart													75	3,518 25	
45	Samuel B. Grice													1 23	5,769 23	
46	Jacob J. Saxon													65	3,049 15	
47	Samuel P. Brown*													50	1,330 00	
48	Jesse C. Allen													70	3,283 70	
49	John S. Beall													78	3,658 98	
50	Storer & Stephenson													80	3,752 80	

* Informal—offers for *frigate only*.

Offers opened March 1, 1853, in presence of—
W. B. SHUBRICK,
P. C. JOHNSON,
JOHN H. REILY.

The following offers, being the lowest, are accepted, viz: No. 3, of James N. McAlpine, for Portsmouth; No. 8, of James N. McAlpine, for Charlestown; No. 15, of James N. McAlpine, for Brooklyn; No. 22, of James N. McAlpine, for Philadelphia; No. 35, of John Petty, for Washington; No. 36, of James N. McAlpine, for Gosport; No. 43, of H. G. Ramsay, for Pensacola.

WM. B. SHUBRICK *Chief of Bureau.*

BUREAU OF CONSTRUCTION, &c., *March* 1, 1853.

NO. 3.

Scale of offers to furnish naval supplies at the navy yard at Charlestown, Massachusetts, under advertisement of 12th May, 1853. Offers received to 20th June; deliveries during the fiscal year ending 30th June, 1854.

	Bidders.	Class 1. Iron.	Class 2. Copper.	Class 3. Hardware.	Class 4. Composition nails.	Class 5. Flax canvas.	Class 6. Cotton canvas, hammock, and bag-stuff.
1	S. & E. Knight						
2	L. Timberlake					$15,477 50	
3	Crocker & Sturgis						
4	Southard, Hubbard & Co						
5	J. Davis, jr., Tr. Revere Copper Company		$13,257 83½				
6	Storer & Stephenson				$877 50	15,590 00	$6,687 50
7	Horton, Hall & Co						
8	Plume & Co						
9	Horton, Hall & Co	$2,189 00					
10	McKim & Cutter						
11	J. G. Kidder						
12	John E. Doyle						
13	Wm. A. Freeborn				960 00		
14	Erastus Corning	2,389 50	17,840 32				
15	Horton, Hall & Co			$4,004 90			
	Do				1,030 00		
	& Christman		16,171 84		1,300 00		
	, Hall & Co		13,493 00				
	Coffin						
	l & Co						
	Will						
	& Co						

24	John Goewey	2,043 50	13,877 36				
25	Jacob Hall, jr						
26	Wm. Lang				1,120 00		
27	J. R. Anderson	2,255 20					
28	Benj. F. Wilson	2,308 75	14,518 29		1,160 00		7,627 50
29	Henry N. Hooper & Co				1,120 00		
30	Wm. Mason & Son						6,514 50
31	Wm. Lang	2,599 60					

No. 3—Continued.

	Bidders.	Class 7. Ship chandlery.	Class 8. Paints, oil, and glass.	Class 9. Sperm oil and candles.	Class 10. Oakum.	Class 11. Manilla hemp.	Class 12. Stationery.	Class 13. Firewood.
1	S. & E. Knight							$789 00
2	L. Timberlake							
3	Crocker & Sturgis					$12,400 00		
4	Southard, Hubbard & Co			$2,270 00				
5	J. Davis, jr., Tr. Revere Copper Co							
6	Storer and Stephenson			2,775 00		12,245 00		
7	Horton, Hall & Co					12,750 00		
8	Plume & Co				$274 25			
9	Horton, Hall & Co							
10	McKim & Cutter						$600 72	
11	J. G. Kidder			2,565 00				
12	John E. Doyle					13,150 00		
13	Wm. A. Freeborn							
14	Erastus Corning							
15	Horton, Hall & Co							
16	Do							
17	Grice & Christman		$6,013 75	4,075 00				
18	Horton, Hall & Co							
19	N. W. Coffin			2,745 00				
20	Horton, Hall & Co	$4,704 90						
	[illegible] Hill		3,275 75					
								Informal.
	& Co		2,381 35					
						12,700 00		
			3,634 00	2,670 00	325 00	12,320 00		
		5,240 76	3,092 95	2,475 00	345 00	12,768 00		790 00

29	Henry N. Hooper & Co.							
30	Wm. Mason & Son							
31	Wm. Lang							

Offers opened June 21, 1853, in presence of—

WM. B. SHUBRICK,
P. C. JOHNSON,
JOHN H. REILY.

The following offers, being the lowest, are accepted, viz: No. 24, of John Goewey,† for class No. 1; No. 5, of J. Davis, jr., for class No. 2; No. 15, of Horton, Hall & Co., for class No. 3; No. 6, of Storer & Stephenson, for class No. 4; No. 2, of L. Timberlake, for class No. 5; No. 30, of Wm. Mason & Son, for class No. 6; No. 20, of Horton, Hall & Co., for class No. 7; No. 23, of Horton, Hall & Co., for class No. 8; No. 4, of Southard, Hubbard & Co., for class No. 9; No. 8, of Plume & Co., for class No. 10; No. 6, of Storer & Stephenson, for class No. 11; No. 10, of McKim & Cutter, for class No. 12; No. 1, of S. & E. Knight, for class No. 13.

WM. B. SHUBRICK, *Chief of Bureau.*

JUNE 27, 1853.

* Offer not signed.

† Declined to execute; and awarded to next lowest bidder.

No. 4.

Scale of offers to furnish naval supplies at the navy yard at Brooklyn, New York, under advertisement of May 12, 1853. Offers received to 20th June; deliveries during the fiscal year ending June 30, 1854.

	Bidders.	Class 1. Iron.	Class 2. Copper.	Class 3. Hardware.	Class 4. Lead and tin.	Class 5. Composition nails, &c.	Class 6. Glass.	Class 7. Flax canvas.	Class 8. Cotton canvas.
1	Geo. G. Glasier			$6,909 00					
2	Chas. A. Secor & Co			6,726 05		$2,662 50			
3	Grice and Christman		$20,336 20			3,594 50			
4	Geo. G. Glasier								
5	Pike & Lander	$13,138 00	21,048 00	7,547 35	$2,053 61	2,370 00	$331 00	$12,800 00	$8,015 00
6	George Adams				1,976 81	2,602 00			
7	L. Timberlake								
8	S. G. Bogert								
9	Aaron A. Degrand		21,798 40						
10	Thos. McCarty								
11	Geo. W. Beavers						Informal.		
12	Wm. A. Freeborn					2,123 50			
13	James How								
14	Kennedy & Hill								
15	Wm. Lang								
16	J. Davis, jr., Tr. R. C. Co		19,243 90						
17	L. Timberlake							11,439 90	
18	Erastus Corning	13,437 28	24,513 20		2,164 84				
19	Jno. K. Lurge								
20	Lee & Bunting			8,565 66					
21	Southard, Hubbard & Co								
22	Collins, Bowne & Co								
23	Nathan Lane & Co								
24	Chas. F. Sinclair								

25	Storer & Stephenson	11,663 60	20,117 00	6,605 37	1,787 98	2,000 00	298 40	11,600 00	6,805 00
26	Geo. Crosby								
27	McSpeden, Baker & Co								
28	John Goewey	Informal.	Informal.		Informal.				
29	McSpeden, Baker & Co	11,723 17							
30	Do do								
31	George Gardiner & Co	11,885 54							
32	Christian S. Storms		20,095 40	7,105 44	1,851 52	2,499 00	395 20	14,320 00	8,946 25
33	Wm. Lang	13,863 16							
34	Wm. Mason & Son								6,766 45
35	Henry N. Hooper & Co					2,562 00			
36	Benj. F. Wilson	12,469 72	19,386 60		2,093 02	2,653 50	266 04		8,527 10
37	Jos. R. Anderson	11,777 10							
38	John Nash								

No. 4—Continued.

	Bidders.	Class 9. Twine.	Class 10. Ship chandlery.	Class 11. Paints, oils, &c.	Class 12. Sperm oil & candles.	Class 13. Stationery.	Class 14. Wood.	Class 15. Leather.	Class 16. Brushes, &c.
1	Geo. G. Glasier								
2	Chas. A. Secor & Co		$9,707 20					$2,308 00	
3	Grice & Christman			$7,994 10	$8,960 00				
4	Geo. G. Glasier		9,089 94						
5	Pike & Lander	$410 00	9,025 00	6,669 50	6,795 00		$3,000 00	2,238 00	$659 00
6	George Adams			6,242 40					
7	L. Timberlake		11,417 67						
8	S. G. Bogert						2,950 00		
9	Aaron A. Degrand								
10	Thos. McCarty						2,450 00		
11	Geo. W. Beavers								
12	Wm. A. Freeborn								
13	James How			6,597 87					
14	Kennedy & Hill			6,388 85					705 00
15	Wm. Lang				7,190 00			3,061 00	
16	J. Davis, jr., Tr. R. C. Co								
17	L. Timberlake								
18	Erastus Corning								
19	Jno. K. Large						2,840 00		
20	Lee & Bunting								
21	Southard, Hubbard & Co				6,830 00				
22	Collins, Bowne & Co					$441 05			
23	Nathan Lane & Co					479 62			
24	Chas. F. Sinclair						2,600 00		
25	Storer & Stephenson	381 25	8,904 50	6,068 00	6,750 00		2,400 00	1,090 00	647 00
26	Geo. Crosby						2,400 00		
27	McSpeden, Baker & Co					438 60			
28	John Goewey								

29	McSpeden, Baker & Co								
30	Do do				7,106 25				
31	George Gardner & Co								
32	Christian S. Storms	346 25	10,102 65	6,613 25	7,255 00		2,500 00	2,005 50	667 30
33	Wm Lang								
34	Wm. Mason & Son								
35	Henry N. Hooper & Co								
36	Benj. F. Wilson	407 50		6,821 84	7,030 00			2,359 00	
37	Jos. R. Anderson								
38	John Nash						3,900 00		

Offers opened June 21, 1853, in presence of—

WM. B. SHUBRICK,
P. C. JOHNSON,
JNO. H. REILY.

The following offers, being the lowest, are accepted, viz: No. 25, of Storer & Stephenson, for classes Nos. 1, 3, 4, 5, 10, 11, 12, 15, 16; No. 16, of J. Davis, jr, Tr. R. C. Co., for class No. 2; No. 36, of Benj. F. Wilson, for class No. 6; No. 17, of L. Timberlake, for class No. 7; No. 34, of Wm. Mason & Son for class No. 8; No. 32, of C. S. Storms, for class No. 9; No. 27, of McSpeden, Baker & Co., for class No. 13; No. 26, of Geo. Crosby, (by lot,) for class No. 14.

NOTE.—Offer No. 11 informal—wrong items; offer No. 28 informal—not certified. An offer of Wetherill & Bro., for class 11, received on the 21st June, after the expiration of the time limited.

WM. B. SHUBRICK, *Chief of Bureau.*

JUNE 27, 1853

No. 5.

Scale of offers to furnish naval supplies at the navy yard, Philadelphia, under advertisement of May 12, 1853. Offers received to June 20; deliveries during the fiscal year ending June 30, 1854.

	Bidders.	Class 1. Iron.	Class 2. Hardware.	Class 3. Lead, zinc, &c.	Class 4. Miscellaneous.	Class 5. Flax canvas.	Class 6. Cotton canvas.	Class 7. Twine, &c.
1	George Adams		$3,036 45	$916 00				
2	John Goewey	$840 00						
3	J. B. Baxter & Brother*		Informal.					
4	L. Timberlake					$9,274 63		
5	Thos. E. Baxter			748 00				
6	James Leslie, jr		2,829 04					
7	Storer & Stephenson	1,200 00	2,696 60	900 00	$405 00	9,198 40	$1,601 00	$265 00
8	Benj. F. Wilson			819 48	420 50		1,907 45	206 92
9	William Mason & Son						1,495 60	
10	Jos. R. Anderson†	Informal.						
11	William Lang	826 00						

* Offer not guarantied. † Offers for part of class.

An offer was received from J. K. Graham on the 27th of June, after the expiration of the time limited.

Offers opened June 21, 1853, in presence of—
WM. B. SHUBRICK,
P. C. JOHNSON,
JNO. H. REIBY.

The following offers, being the lowest, are accepted, viz: No. 11, of Wm. Lang, for class 1; No. 7, of Storer & Stephenson, for classes 2, 4, 5 and 7; No. 5, of Thomas E. Baxter, for class 3; No. 9, of William Mason, for class 6.

WM. B. SHUBRICK, *Chief of Bureau.*

No. 6.

Scale of offers to furnish naval supplies at the navy yard, Gosport, Virginia, under advertisement of May 12, 1853. *Offers received to June* 20; *deliveries during the fiscal year ending June* 30, 1854.

	Bidders.	Class 1. Iron.	Class 2. Copper.	Class 3. Hardware.	Class 4. Lead, tin, & zinc.	Class 5. Composition sheathing nails.	Class 6. Glass.	Class 7. Flax canvas.	Class 8. Cotton canvas.
1	Southard, Hubbard & Co								
2	L. Timberlake							$18,100 50	
3	Jno. A. Higgins			$4,929 50			$725 00		
4	J. Davis, jr., Tr. R. C. Co.		$17,429 97						
5	E. P. Tabb & Co			4,777 00	$3,013 00	$4,350 00			
6	Vickery & Griffith								
7	Storer & Stephenson	$4,902 30	19,853 00	5,001 50	2 665 00	3,640 00	410 00	12,650 00	$6,170 00
8	Erastus Corning	5,749 55	22,362 62		3,080 50				
9	Edward P. Tabb & Co			4,751 50	3,013 00	4,350 00			
10	R. C. Barclay								
11	John Goewey*	4,568 40	17,281 20		2,578 06				
12	Grice & Christman		21,453 80			6,000 00			
13	Kennedy & Hill						280 00		
14	Jno. A. Higgins				2,487 00				
15	Wm. A. Freeborn					3,695 00			
16	George Adams								
17	Wm. Lang	5,583 60							
18	Wm. Mason & Son								6,159 10
19	H. N. Hooper & Co					4,500 00			
20	Benjamin F. Wilson	5,497 85	19,471 16		2,804 25	4,425 00	511 25		8,964 50
21	Caleb Bonsal	4,995 50	20,074 00	5,440 50	2,693 00	4,110 00	600 00		
22	J. R. Anderson	5,015 20							

No. 6—Continued.

	Bidders.	Class 9. Flax & cotton twine.	Class 10. Ship chandlery.	Class 11. Paints and oils.	Class 12. Sperm oil and candles.	Class 13. Leather.	Class 14. Dry goods.	Class 15. Brass.	Class 16. Stationery.
1	Southard, Hubbard & Co				$4,830 00				
2	L. Timberlake								
3	Jno. A. Higgins		$2,232 50	$4,678 00		$1,930 00	$235 00		
4	J. Davis, jr., Tr. R. C. Co.								
5	E. P. Tabb & Co.								
6	Vickery & Griffith								$416 87
7	Storer & Stephenson	$510 00	2,107 00	4,217 00	4,650 00	2,075 00	180 00		
8	Erastus Corning								
9	Edward P. Tabb & Co.								
10	R. C. Barclay								450 50
11	John Goewey								
12	Grice & Christman			5,364 25	7,050 00				
13	Kennedy & Hill			4,334 50					
14	Jno. A. Higgins	511 00							
15	Wm. A. Freeborn								
16	George Adams			4,704 30					
17	Wm. Lang								
18	Wm. Mason & Son								
19	H. N. Hooper & Co.								
20	Benjamin F. Wilson	515 50	2,565 00	4,544 50	4,905 00	1,334 00	150 00		
21	Caleb Bonsal		2,090 00	5,260 00	5,640 00	2,040 00	210 00	$333 00	
22	J. R. Anderson								

* Declined to execute, and the same were awarded to the next lowest offers; being offer No. 7, of Storer & Stephenson, for class No. 1; and offer No. 4, of Revere Copper Co., for class No. 2.

An offer was received from Wetherill & Bro. for class No. 11, on the 21st June, after the expiration of the time limited.

Offers opened June 21, 1853, in presence of—
WM. B. SHUBRICK,
P. C. JOHNSON,
JNO. H. REILY.

The following offers, being the lowest, are accepted, viz: No. 11, of Jno. Goewey, for classes Nos. 1 and 2; No. 9, of E. P. Tabb & Co., for class No. 3; No. 14, of Jno. A. Higgins, for class No. 4; No. 7, of Storer & Stephenson, for classes Nos. 5, 7, 9, 11, and 12; No. 13, of Kennedy & Hill, for class No. 6; No. 18, of Mason & Son, for class No. 8; No. 21, of Caleb Bonsal, for classes Nos. 10 and 15; No. 20, of Benjamin F. Wilson, for classes Nos. 13 and 14; No. 6, of Vickery & Griffith, for class No. 16.

WM B. SHUBRICK,
Chief of Bureau.

JUNE 27, 1853.

No. 7.

Scale of offers to furnish naval supplies at the navy yard, Washington, D. C., under advertisement of May 12, 1853. Offers received to June 20; deliveries during the fiscal year ending June 30, 1854.

	Bidders.	Class 1. Iron.	Class 2. Lead, tin, &c.	Class 3. Pig iron.	Class 4. Hardware.	Class 5. Ship chandlery.	Class 6. Paints, &c.	Class 7. Sperm oil and candles.	Class 8. Charcoal.
1	John Goewey*	$2,135 25	$3,034 13						
2	Kennedy & Hill						$207 00		
3	Campbell & Coyle				$2,369 83				
4	George Adams		3,576 25	$1,937 50					
5	George Gardner & Co	2,628 00							
6	Eli Dyer								$195 00
7	Philip Otterback								274 00
8	Charles L. Ondersluys	2,743 50		1,950 00					
9	Erastus Corning	2,792 25	3,668 37						
10	S. G. Bogert	3,942 00	3,336 09	2,000 00	2,550 48				
11	Thomas. E. Baxter		4,255 00						
12	Storer & Stephenson	2,956 50	3,104 00		2,282 50		189 50	$260 00	
13	Caleb Bonsal†	2,365 20	3,386 50	1,735 00	2,398 50	$209 00	218 00	400 00	
14	Benj. F. Wilson	2,710 12	3,163 75	1,875 00			207 50	279 50	800 00
15	Wm. Lang	2,614 86							
16	J. R. Anderson	2,365 20							

Offers were received from Wetherill & Brother and John P. Wetherill on the 21st of June, after the expiration of the time limited.

Offers opened June 21, 1853, in presence of WM. B. SHUBRICK, P. C. JOHNSON, and J. H. REILY.

The following offers, being the lowest, are accepted, viz: No. 1, of John Goewey,* for classes Nos. 1 and 2; No. 13, of Caleb Bonsal, for classes Nos. 3 and 5; No. 12, of Storer & Stephenson, for classes Nos. 4, 6, and 7; No. 6, of Eli Dyer, for class No. 8.

JUNE 27, 1853.

WM. B. SHUBRICK, *Chief of Bureau.*

* Failed to execute, and awarded to next lowest bidder.

† By lot.

No. 8.—*Scale of offers to furnish naval supplies at the navy yard, Pensacola, Fla., under advertisement of May 12, 1853. Offers received to June 20; deliveries during the fiscal year ending June 30, 1854.*

	Bidders.	Class 1. Iron.	Class 2. Copper.	Class 3. Hardware.	Class 4. Lead and tin.	Class 5. Sheathi'g nails.	Class 6. Cotton canvas.	Class 7. Twine.	Class 8. Ship chandlery.	Class 9. Paints, oils, &c.	Class 10. Sperm oil & candles.	Class 11. Hemp.	Class 12. Fuel.
1	Southard, Hubbard & Co.	.....	.....	.....	.....	.....	.....	.....	.....	.....	$1,920 00	.....	.....
2	Caleb Bonsal.....	$1,248 00	$12,637 50	$1,600 00	$610 00	$600 00	.....	.....	$1,363 00	$2,505 00	3,600 00	$500 00	.....
3	S. G. Bogert.....	1,128 00	7,546 25	1,201 20	461 75	420 00	$2,975 00	$250 00	1,249 00	1,119 00	2,500 00	375 00	$1,100 00
4	J. Davis, jr., Tr. R. C. Co.	.....	8,340 75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5	Geo. Gardner & Co.....	977 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6	Wm. A. Freeborn.....	.....	.....	.....	.....	312 00	.....	.....	.....	.....	.....	.....	.....
7	Storer & Stephenson....	906 00	7,506 25	834 25	391 50	298 00	2,225 50	75 00	1,147 00	1,151 00	2,000 00	300 00	.....
8	Chester P. Knapp.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	830 00
9	Wm. H. Baker.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	852 50
10	J. M. Stannard*	.....	6,777 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
11	Albert L. Avery	1,000 00	11,598 37½	792 14	721 00	600 00	.....	110 00	1,231 50	1,402 00	2,560 00	318 50	755 00
12	Erastus Corning	874 00	9,162 19	.....	395 63	.....	.....	.....	.....	.....	.....	.....	.....
13	John Goewey*.....	718 00	7,077 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
14	Kennedy & Hill.....	.....	.....	.....	.....	.....	.....	.....	.....	927 50	.....	.....	.....
15	J. R. Anderson.....	875 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
16	Benj. F. Wilson.....	999 20	7,828 12	.....	481 50	420 00	2,742 50	84 00	.....	1,138 00	2,060 00	.....	.....
17	H. N. Hooper & Co.....	.....	.....	.....	.....	384 00	.....	.....	.....	.....	.....	.....	.....
18	Wm. Mason & Son.....	.....	.....	.....	.....	.....	2,213 30	.....	.....	.....	.....	.....	.....
19	Wm. Lang.....	921 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Offers opened June 21, 1853, in presence of—
WM. B. SHUBRICK,
P. C. JOHNSON,
J. H. RILEY.

The following offers, being the lowest, are accepted, viz: No. 13,* of John Goewey, for class No. 1; No. 10,* of J. M. Stannard, for class No. 2; No. 7, of Storer & Stephenson, for classes Nos. 4, 5, 7, 8, and 11; No. 11, of A. L. Avery, for classes Nos. 3 and 12; No. 18, of Wm. Mason & Son, for class No. 6; No. 14, of Kennedy & Hill, for class No. 9; No. 1, of Southard, Hubbard & Co., for class No. 10.

JUNE 27, 1853.

WM. B. SHUBRICK, *Chief of Bureau.*

* Declined to execute, and awarded to next lowest bidder.

No. 9.

Scale of offers to furnish timber, lumber, &c., at the navy yards at Kittery and Charlestown, under advertisement of May 12, 1853. Offers received to June 20; deliveries to be made in full by December 30, 1854.

	Bidders.	KITTERY.		CHARLESTOWN.						
		Class 1.	Class 2.	Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.
		Yellow pine, for masts.	White oak.	White oak.	White oak, promiscuous timber, and boat knees.	White pine.	Ash pl'k, walnut, elm, mahogany, &c.	Hickory and white ash oars.	Lignumvitæ.	Black spruce spars.
1	Storer & Stephenson	$2,780 00	$21,000 00							
2	S. G. Bogert	1,911 25	16,800 00							
3	Wm. White		17,325 00							
4	John Petty	1,303 12½	15,662 50							
5	Wm. C. Burroughs	1,633 25								
6	Thos. Tatem*	Informal.	Informal.							
7	John Pritchett	2,085 00								
8	Jas. N. McAlpine	1,494 25								
9	A. J. Fitch	2,606 25	22,750 00							
10	John Nash	1,735 50	14,700 00							
11	Storer & Stephenson			$22,360 00	$5,704 00	$5,350 00	$2,062 50	$1,280 00	$700 00	$1,700 00
12	S. G. Bogert			22,320 00	3,862 00	4,420 00	1,572 50	1,038 25	1,125 00	1,700 00
13	Oakman & Eldridge				3,875 60					
14	Do					4,630 00				
15	Do						1,802 50			
16	Do							1,093 50		
17	Do									1,150 00
18	M. W. Coffin							877 75		1,105 00
19	Fred. A. Southmayd							1,004 19		

20	M. W. Coffin					4,020 00			660 00	
21	Clayton & Jones†					Informal.				Informal.
22	Saml. B. Grice‡			23,795 00		5,500 00	Informal.			
23	Horton, Hall & Co.								620 00	
24	Robert Todd‖					Informal.				
25	John R. Gilliam							1,816 00		
26	Grice & Christman			31,440 00					2,850 00	
27	Wm. Lang								675 00	
28	Philip Otterback								825 00	
29	J. L. Ross						1,673 50			
30	A. J. Fitch			24,450 00	5,575 60	4,585 00	1,795 00	1,856 00	1,500 00	2,250 00

* Not guarantied. † Not certified. ‡ Offers for part of class. ‖ Offer not signed.

An offer was received from H. H. & J. Putnam on July 2, after the expiration of the time limited.

Offers opened June 22, 1853, in the presence of—
WM. B. SHUBRICK,
P. C. JOHNSON,
J. H. REILY.

The following offers, being the lowest, are accepted, viz: No. 4, of Jno. Petty, for class No. 1; No. 10, of John Nash, for class No. 2, Kittery. No. 12, of S. G. Bogert, for classes Nos. 1, 2, and 4; No. 20, of M. W. Coffin, for classes Nos. 3, 5, and 7; No. 23, of Horton, Hall & Co., for class No. 6, Charlestown.

WM. B. SHUBRICK, *Chief of Bureau.*

JUNE 28, 1853.

No. 10.

Scale of offers to furnish timber, lumber, &c., at the navy yard, Brooklyn, N. Y., under advertisement of May 12, 1853. Offers received to June 20; deliveries to be made in full by December 30, 1854.

	Bidders.	Class 1. White oak.	Class 2. White oak knees.	Class 3 White oak plank.	Class 4. White pine.	Class 5. Black spruce spars.	Class 6. Yellow pine mast and spar timber.
1	Storer & Stephenson	$19,200 00	$11,647 50	$540 00	$8,870 00	$2,050 00	$6,750 05
2	S. G. Bogert	17,600 00	6,645 00	450 00	7,208 00	2,700 00	4,307 40
3	John Petty	17,800 00	.....	.....	.....	.....	2,879 15½
4	John N. McAlpine	.....	.....	.....	.....	.....	3,090 07
5	Oakman & Eldridge	.....	.....	.....	.....	1,430 00	.....
6	Lewis Beall	.....	11,918 75	.....	.....	.....	.....
7	Fred. A Southmayd	.....	.....	351 00	.....	1,260 00	.....
8	James Bigler	.....	.....	396 00	7,160 00	.....	.....
9	A. J. Fitch	17,500 00	6,880 00	405 00	7,028 00	2,000 00	4,090 30
10	Wm. C. Burroughs	.....	.....	.....	.....	.....	.....
11	David D. Barber*	Informal.	.....	.....	.....	.....	.....
12	John R. Lutton	.....	.....	.....	.....	.....	.....
13	Charles Rolfe	.....	.....	.....	7,012 50	.....	.....
14	Philip Otterback	.....	.....	.....	.....	.....	.....
15	Grice & Christman	24,800 00	.....	.....	14,393 00	.....	4,650 35
16	William White	19,200 00	.....	.....	.....	.....	.....
17	Degraw, Bradbury & Co	18,000 00	.....	.....	.....	.....	.....
18	Boyle & Co	.....	.....	.....	.....	.....	.....
19	M. K. Keath & Co	.....	.....	.....	8,760 00	.....	.....
20	John Nash	17,887 50	.....	.....	.....	.....	3,480 50

* Not certified.

No. 10—Continued.

	Bidders.	Class 7.	Class 8.	Class 9.	Class 10.	Class 11.	Class 12.
		Locust timber.	African oak.	Lignumvitæ.	Hickory bars.	Ash timber, &c.	Miscellaneous plank and boards.
1	Storer & Stephenson	$450 00	$1,760 00	$1,110 00	$450 00	$1,390 00	$1,400 00
2	S. G. Bogert	337 50	850 00	2,200 00	375 00	1,020 00	1,500 00
3	John Petty						
4	J. N. McAlpine						
5	Oakman & Eldridge						
6	Lewis Beall						
7	Fred. A. Southmayd				180 00	1,074 50	1,238 50
8	James Bigler						
9	A. J. Fitch	375 00	950 00	2,090 00	975 00	1,071 50	1,177 50
10	William C. Burroughs				300 00		
11	David D. Barber						
12	John R. Lutton	182 50					
13	Charles Rolfe						
14	Philip Otterback			1,193 00			
15	Grice & Christman						
16	William White						
17	Degraw, Bradbury & Co						
18	Boyle & Co						1,502 50
19	M. K. Keath & Co						
20	John Nash						

Offers opened June 22, 1853, in presence of WM. B. SHUBRICK, P. C. JOHNSON, JOHN H. REILY.

The following offers, being the lowest, are accepted, viz: No. 9, of A. J. Fitch, for classes 1 and 12; No. 2, of S. G. Bogert, for classes 2, 8, and 11; No. 7, of Southmayd, for classes 3, 5, and 10; No. 13, of Charles Rolfe, for class 4; No. 3, of John Petty, for class 6; No. 12, of John R. Lutton, for class 7; No. 1, of Storer & Stephenson, for class 9.

F. A. JUNE 28, 1853.

WM. B. SHUBRICK, *Chief of Bureau.*

No. 11.—*Scale of offers to furnish timber, lumber, &c., at the navy yards at Philadelphia and Washington, under advertisement of 12th May, 1853. Offers received to 20th June; deliveries to be made in full by 30th December, 1854.*

	Bidders.	PHILADELPHIA.							WASHINGTON.
		Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	
		White oak timber.	Delaware white oak for trestle trees.	Susquehanna, or upland white oak.	White oak plank, &c., for boats.	Yellow pine for sloops, fore & main masts.	Blace spruce spars.	White pine lumber, &c.	Ash plank.
1	S. G. Bogert	$900 00	$483 50	$390 80	$270 00	$5,746 80	$1,500 00	$8,720 00	
2	Storer & Stephenson	1,750 00	438 80	312 64	360 00	6,021 45	1,650 00	13,350 00	
3	R. B. Knight					8,828 56			
4	J. M. Stannard*					Informal.			
5	Samuel B. Grice	580 00		195 40	270 00	6,246 40		13,095 00	
6	James N. McAlpine					3,854 09			
7	Oakman & Eldridge						905 00		
8	Wilson N. Cannon†	Informal.							
9	J. Bigler							8,275 00	
10	John Petty					4,481 50			
11	George Parris	295 00	302 72						
12	Wm. C. Burroughs	350 00							
13	Lewis M. Beall & Bro	352 50	266 75	175 86	180 00				
14	Thomas E. Baxter							10,145 00	
15	Doughren & Wilson							9,460 50	
16	Grice & Christman	452 50			265 50	9,926 30	1,350 00	13,196 00	
17	Storer & Stephenson								$6,275 00
18	A. J. Fitch								4,105 00
19	Samuel Grice								4,127 50
20	S. G. Bogert								4,040 00

* Offers for part of class. † Not guarantied.

Offers opened 22d June, 1853, in presence of Wm. B. Shubrick, P. C. Johnson, and J. H. Reily.

The following offers, being the lowest, are accepted, viz: No. 11, of G. Parris, for class 1; No. 13, of L. M. Beall & Bro., for classes 2, 3, and 4; No. 6, of J. N. McAlpine, for class 5; No. 7, of Oakman & Eldridge, for class 6; No. 9, of J. Bigler, for class 7, Philadelphia. No. 20, of S. G. Bogert, for ash plank, Washington.

June 28, 1853.

WM. B. SHUBRICK, *Chief of Bureau.*

No. 12.

Scale of offers to furnish timber, lumber, &c., at the navy yards at Gosport, and Pensacola, Florida, under advertisement of May 12, 1853. Offers received to June 20, deliveries to be made in full by December 30, 1854.

	Bidders.	GOSPORT.							PENSACOLA.		
		Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	Class 1.	Class 2.	Class 3.
		White oak timber.	White hickory butts and oar rafters.	Yellow pine plank stocks.	Elm plank.	White ash plank and boards.	Mahogany.	White pine plank and boards.	White oak plank.	Clear white pine.	Bl'k spruce spars.
1	Storer & Stephenson	$18,088 80	$2,037 50	$17,094 60	$1,850 00	$1,440 00	$1,705 00	$12,692 00	.....	.....	.....
2	S. G. Bogert	13,143 00	1,174 00	14,660 00	1,900 00	840 00	1,650 00	8,428 00	.....	.....	.....
3	Boyle & Company	.....	.....	.....	1,375 00	.....	.....	.....	.....	.....	.....
4	Samuel B. Grice	24,493 00	.....	17,225 93	.....	1,440 00	.....	11,890 00	.....	.....	.....
5	Cornelius Kidder	15,018 00	.....	.....	.....	.....	.....	.....	.....	.....	.....
6	A. J. Fitch	15,943 00	2,530 00	15,594 00	1,320 00	1,200 00	1,645 00	8,528 00	.....	.....	.....
7	F. A. Southmayd	.....	1,211 25	.....	.....	.....	.....	.....	.....	.....	.....
8	John Petty	13,129 10	.....	11,196 00	1,355 00	.....	.....	.....	.....	.....	.....
9	Jos. Temple	.....	.....	10,436 40	.....	.....	.....	.....	.....	.....	.....
10	J. Bigler	.....	.....	.....	.....	.....	.....	8,230 70	.....	.....	.....
11	J. N. McAlpine	.....	.....	10,955 30	.....	.....	.....	.....	.....	.....	.....
12	Grice & Christman	26,129 80	.....	24,920 76	.....	.....	.....	11,484 60	.....	.....	.....
13	Samuel Marsh	.....	.....	.....	1,640 00	960 00	.....	9,619 00	.....	.....	.....
14	John Tunis	.....	.....	.....	1,480 00	.....	.....	.....	.....	.....	.....
15	Do	.....	.....	.....	.....	840 00	1,650 00	8,408 00	.....	.....	.....
16	Storer & Stephenson	.....	.....	.....	.....	.....	.....	.....	$6,720 00	$2,520 00	$1,900 00
17	S. G. Bogert	.....	.....	.....	.....	.....	.....	.....	4,480 00	1,680 00	800 00
18	A. J. Fitch	.....	.....	.....	.....	.....	.....	.....	4,200 00	1,820 00	3,000 00
19	Chester P. Knapp	.....	.....	.....	.....	.....	.....	.....	.....	.....	630 00
20	John Petty	.....	.....	.....	.....	.....	.....	.....	7,000 00	.....	.....

List of contracts under the cognizance of the Bureau of Construction, Equipment and Repair, from 1852, *to November* 1, 1853: *prepared in conformity with an act of Congress of April* 21, 1808.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1852.	1852.				
Oct. 20	Dec. 24	Harrison Loring	Steam-boilers, &c., for steamer John Hancock	$14,000 00	Charlestown.
1852.	1853.				
Dec. 15	Jan. 21	Harrison Loring	Altering boilers of John Hancock	5,000 00	Charlestown.
Dec. 20	Jan. 17	Ames & Green	2 6-horse steam-engines, and 2 boilers for the same	1,200 00	Gosport.
Dec. 23	April 1	Murray & Hazlehurst	Altering boilers for steamer Princeton	18,500 00	Gosport.
1853.	1853.				
Jan. 29	April 15	Andrew Mehaffey	Altering boilers for steamer Alleghany	18,000 00	Gosport.
1853.	1858.				
Feb. 21	June 15	Grandison Spratt, (cancelled)	1,950 tons of American water-rotted, or Russia clean hemp—		
			American water-rotted hemp	230 00 per ton	Memphis.
			Russia clean hemp	216 00 do	Charlestown.
1853.	1854.				
March 15	March 1	John Petty	1,370 cubic feet mast and spar timber	49 per cub. ft.	Washington.
March 17	March 1	H. G. Ramsay	4,691 ....do....do....do	38 do	Pensacola.
March 19	March 1	J. N. McAlpine	6,440 ....do....do....do	33 do	Gosport.
			3,180 ....do....do....do	40 do	Kittery.
			4,110 ....do....do....do	40 do	Charlestown.
			15,790 ....do....do....do	40 do	Brooklyn.
			2,740 ....do....do....do	40 do	Philadelphia.
July 13	June 30	Caleb Bonsal	50 tons American gray pig-iron, (2,240 pounds)	34 70 per ton	Washington.
			100 pounds spelter solder	40 per pound.	
			50 pounds refined borax	50 do	
			4 sides heavy pump leather	7 00 per side.	
			20 crucibles, No. 50, American make	3 00 each.	
			20....do....No. 40....do	2 50 do	
			150 pounds white chalk	4 per pound.	
			20 casks Washington lime	1 25 per cask	Gosport.
			200 barrels tar	2 25 per barrel.	

No. 12—Continued.

	Bidders.	GOSPORT.							PENSACOLA.		
		Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	Class 1.	Class 2.	Class 3.
		White oak timber.	White hickory butts and oar rafters.	Yellow pine plank stocks.	Elm plank.	White ash plank and boards.	Mahogany.	White pine plank and boards.	White oak plank.	Clear white pine.	B'lk spruce spars.
21	Jesse Pritchett	.....	.....	.....	.....	.....	.....	.....	$15,930 00	.....	.....
22	Oakman & Eldridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	$780 00
23	Wm. H. Baker	.....	.....	.....	.....	.....	.....	.....	3,920 00	.....	.....
24	Thomas Tatem*	.....	.....	.....	.....	.....	.....	.....	Informal.	.....	.....

* Not guarantied.

An offer was received from George W. Peete for deliveries at Gosport on the 24th June, after the expiration of the time limited.

Offers opened June 22, 1853, in presence of—
WM. B. SHUBRICK,
P. C. JOHNSON,
J. H. REILY.

The following offers, being the lowest, are accepted, viz: No. 8, of John Petty, for class No. 1; No. 2, of S. G. Bogert, for classes Nos. 2 and 5, (class No. 5 by lot;) No. 9, of Jos. Temple, for class No. 3; No. 6, of A. J. Fitch, for classes Nos. 4 and 6; No. 10, of J. Bigler, for class No. 7, Gosport. No. 23, of W. H. Baker, for class No. 1; No. 17, of S. G. Bogert, for class No. 2; No. 19, of C. P. Knapp, for class No. 3, Pensacola.

WM. B. SHUBRICK, *Chief of Bureau.*

JUNE 28, 1853.

30	Samuel P. Brown									60	822 00				
31	Abm. M. Bogart									70	959 00				
32	Samuel B. Grice									1 25	1,712 25				
33	John S. Beall									80	1,096 00				
34	Storer & Stephenson									68	931 60				
35	John Petty									49	671 30				
36	James N. McAlpine											$0 33	$2,125 20		
37	Samuel P. Brown											74	4,765 60		
38	Samuel B. Grice											1 45	9,338 00		
39	John S. Beall											78	5,023 20		
40	John Petty											40	2,576 00		
41	Abm. M. Bogart											50	3,220 00		
42	Storer & Stephenson											80	5,152 00		
43	H. G. Ramsay													$0 38	$1,782 58
44	Abm. M. Bogart													75	3,518 25
45	Samuel B. Grice													1 23	5,769 93
46	Jacob J. Saxon													65	3,049 15
47	Samuel P. Brown*													50	1,330 00
48	Jesse C. Allen													70	3,283 70
49	John S. Beall													78	3,658 98
50	Storer & Stephenson													80	3,752 80

* Informal—offers for *frigate only*.

Offers opened March 1, 1853, in presence of—
W. B. SHUBRICK,
P. C. JOHNSON,
JOHN H. REILY.

The following offers, being the lowest, are accepted, viz: No. 3. of James N. McAlpine, for Portsmouth; No. 8, of James N. McAlpine, for Charlestown; No. 15, of James N. McAlpine, for Brooklyn; No. 22, of James N. McAlpine, for Philadelphia; No. 35, of John Petty, for Washington; No. 36, of James N. McAlpine, for Gosport; No. 43, of H. G. Ramsay, for Pensacola.

WM. B. SHUBRICK *Chief of Bureau.*

BUREAU OF CONSTRUCTION, &c., *March* 1, 1853.

No. 3.

Scale of offers to furnish naval supplies at the navy yard at Charlestown, Massachusetts, under advertisement of 12th May, 1853. Offers received to 20th June; deliveries during the fiscal year ending 30th June, 1854.

	Bidders.	Class 1. Iron.	Class 2. Copper.	Class 3. Hardware.	Class 4. Composition nails.	Class 5. Flax canvas.	Class 6. Cotton canvas, hammock, and bag-stuff.
1	S. & E. Knight						
2	L. Timberlake					$15,477 50	
3	Crocker & Sturgis						
4	Southard, Hubbard & Co						
5	J. Davis, jr., Tr. Revere Copper Company		$13,257 83½				
6	Storer & Stephenson				$877 50	15,590 00	$6,687 50
7	Horton, Hall & Co						
8	Plume & Co						
9	Horton, Hall & Co	$2,189 00					
10	McKim & Cutter						
11	J. G. Kidder						
12	John E. Doyle						
13	Wm. A. Freeborn				960 00		
14	Erastus Corning	2,389 50	17,840 32				
15	Horton, Hall & Co			$4,004 90			
16	Do				1,030 00		
17	Grice & Christman		16,171 84		1,300 00		
18	Horton, Hall & Co		13,493 00				
19	N. W. Coffin						
20	Horton, Hall & Co						
21	Kennedy & Hill						
22	Robert Todd						
23	Horton, Hall & Co						

			1 dozen parallel rulers, 24 inches	13	50	per dozen.
			2 dozen sand boxes	2	12½	do
			30 pounds black sand		20	per pound.
			2 dozen double log slates	6	00	per dozen.
			4 gross red tape	1	75	per gross.
			15 pounds red wafers, (best)		37½	per pound.
			20 pounds red sealing-wax, (best)		62½	do
			6 dozen bolts silk taste		75	per dozen.
			1 dozen Gunter's scales	4	00	do
			1 dozen round rulers	3	50	per dozen.
			1 dozen flat rulers	4	00	do
July 14	June 30	Plume & Co	5,000 pounds best quality oakum		5.48½	per lb	Charlestown
July 14	June 30	John A. Higgins	1,500 pounds sheet lead, 4 pounds to foot		6	per pound	Gosport.
			1,500....do.....do....3.....do		6	do
			5,000....do.....do....5.....do		6	do
			2,000....do.....do....6.....do		6	do
			2,000....do.....do....8.....do		6	do
			200 feet 2-inch drawn lead pipe		36	per foot.
			200 feet 1½-inch.....do		30	do
			200 feet 1-inch.....do		18	do
			200 feet ¾-inch.....do		15	do
			100 feet ½-inch		10	do
			3,000 pounds pig block tin		27	per pound.
			1,000 pounds pig zinc		6	do
			1,000 pounds sheet zinc		8	do
			36 boxes single tin	9	00	per box.
			20 boxes XX tin	11	00	do
			5 boxes XXX tin, 14 by 20 inches	13	00	do
July 14	June 30	Edward P. Tabb & Co	2 dozen carpenters' adzes	10	00	per dozen.
			2 dozen coopers' axes	10	00	do
			6 dozen brad-awls		30	do
			10 dozen wire awls		30	do
			20 dozen clamp brushes	2	50	do
			20 dozen hand-scrubbing brushes	1	50	do
			3 dozen camels'-hair brushes		50	do
			12 dozen short-handle tar brushes	2	50	do
			2 dozen dusting brushes	3	00	do
			6 dozen paint brushes, fine ground	8	00	do
			6 dozen paint brushes, coarse ground	6	00	do

No. 3—Continued.

	Bidders.	Class 7. Ship chandlery.	Class 8. Paints, oil, and glass.	Class 9. Sperm oil and candles.	Class 10. Oakum.	Class 11. Manilla hemp.	Class 12. Stationery.	Class 13. Firewood.
1	S. & E. Knight							$789 00
2	L. Timberlake							
3	Crocker & Sturgis					$12,400 00		
4	Southard, Hubbard & Co			$2,270 00				
5	J. Davis, jr., Tr. Revere Copper Co							
6	Storer and Stephenson			2,775 00		12,245 00		
7	Horton, Hall & Co					12,750 00		
8	Plume & Co				$274 25			
9	Horton, Hall & Co							
10	McKim & Cutter						$600 72	
11	J. G. Kidder			2,565 00				
12	John E. Doyle					13,150 00		
13	Wm. A. Freeborn							
14	Erastus Corning							
15	Horton, Hall & Co							
16	Do							
17	Grice & Christman		$6,013 75	4,075 00				
18	Horton, Hall & Co							
19	N. W. Coffin			2,745 00				
20	Horton, Hall & Co	$4,704 90						
21	Kennedy & Hill		3,275 75					
22	Robert Todd*							Informal.
23	Horton, Hall & Co		2,381 35					
24	John Goewey							
25	Jacob Hall, jr					12,700 00		
26	Wm Lang		3,634 00	2,670 00	325 00	12,320 00		
27	J. R. Anderson							
28	Benj. F. Wilson	5,240 76	3,092 95	2,475 00	345 00	12,768 00		790 00

3 dozen 12-inch.....do	4	50	do
15 dozen nail gimlets, assorted		75	do
10 dozen spike gimlets	1	50	do
2 dozen carpenters' gauges	1	00	do
12 dozen grates, for drying stoves	2	00	do
6 dozen saddlers' hammers	3	00	do
100 pairs 2-inch brass-butt hinges	15	00	pr. 100 pairs.
200 pairs 1½-inch.....do	15	00	do
10 dozen flat brass hooks and eyes		35	per dozen.
15..do..brass clothes' hooks		75	do
20..do..brass flush-rings		80	do
3...do..pallet knives	2	00	do
2.. do..putty knives	2	00	do
4...do..shoemakers' knives	1	00	do
3...do..butchers' knives	2	00	do
2...do..sail knives	1	00	do
5...do..fishing lines, 40 fathoms long	1	00	do
2 turning lathes	20	00	each.
5 dozen hand-lead lines, 60 fathoms long	30	00	per dozen.
20..do..log-lines, 1 inch, 60 fathoms long	10	00	do
1...do..coasting lines, 1 inch, 100 fathoms long	50	00	do
2...do..hand-leads	10	00	do
1...do..mortice locks, mineral knobs	8	00	do
2...do.. iron closet-locks	2	00	do
2...do..iron closet locks, larger	3	00	do
2...do..iron drawer-locks	1	00	do
20..do..iron padlocks, keys to differ	1	50	do
2...do..brass...do.....do	5	00	do
10..do..brass screw-hooks		30	do
4...do..iron latches	3	00	do
10..do..life-preservers	30	00	do
10..do..pitch-mops	3	00	do
500 pounds 4-penny iron-cut nails		4	per pound.
1,000 pounds 6-penny....do		5	do
1,500 pounds 8 penny....do		5	do
2,000 pounds 10-penny...do		5	do
1,500 pounds 12-penny...do		4	do
900 pounds 20-penny.....do		4	do
500 pounds 30-penny.....do		4	do

No. 4.

Scale of offers to furnish naval supplies at the navy yard at Brooklyn, New York, under advertisement of May 12, 1853. Offers received to 20th June; deliveries during the fiscal year ending June 30, 1854.

	Bidders.	Class 1. Iron.	Class 2. Copper.	Class 3. Hardware.	Class 4. Lead and tin.	Class 5. Composition nails, &c.	Class 6. Glass.	Class 7. Flax canvas.	Class 8. Cotton canvas.
1	Geo. G. Glasier			$6,909 00					
2	Chas. A. Secor & Co			6,726 05		$2,662 50			
3	Grice and Christman		$20,336 20			3,594 50			
4	Geo. G. Glasier								
5	Pike & Lander	$13,138 00	21,048 00	7,547 35	$2,053 61	2,370 00	$331 00	$12,800 00	$8,015 00
6	George Adams				1,976 81	2,602 00			
7	L. Timberlake								
8	S. G. Bogert								
9	Aaron A. Degrand		21,798 40						
10	Thos. McCarty								
11	Geo. W. Beavers						Informal.		
12	Wm. A. Freeborn					2,123 50			
13	James How								
14	Kennedy & Hill								
15	Wm. Lang								
16	J. Davis, jr., Tr. R. C. Co		19,243 90						
17	L. Timberlake							11,439 90	
18	Erastus Corning	13,437 28	24,513 20		2,164 84				
19	Jno. K. Lurge								
20	Lee & Bunting			8,565 66					
21	Southard, Hubbard & Co								
22	Collins, Bowne & Co								
23	Nathan Lane & Co								
24	Chas. F. Sinclair								

1 dozen hack saws	4 00	do
1 dozen clamp screws	6 00	do
2 dozen spoke shaves	5 00	do
2 dozen trying squares	3 00	do
2 dozen iron do	1 00	do
1 dozen saw-sets	2 00	do
1 dozen large screw plates and taps	8 00	do
1 dozen small do	6 00	do
2 dozen tinners' shears	5 00	do
2 dozen hand do	6 00	do
30 pounds salmoniac	14	per pound.
10 gross 3-inch iron screws	50	per gross.
10 gross 2½-inch do	50	do
25 gross 1¼-inch do	70	do
80 gross 1-inch do	50	do
20 gross ¾-inch do	20	do
5 gross 3-inch brass screws	6 00	do
10 gross 2½-inch do	2 50	do
10 gross 1¼-inch do	2 00	do
10 gross 1-inch do	1 00	do
1,000 pounds 5-inch cut-iron spikes	4	per pound.
500 iron welded thimbles	5 00	per 100.
20,000 16-ounce iron-cut tacks	12	per 1,000.
100,000 6-ounce do	6	do
100,000 4-ounce do	5	do
100,000 16-ounce iron pump tacks	12	do
20,000 1-inch copper-cut tacks	40	do
100,000 ¾-inch do	50	do
50,000 ⅝-inch do	50	do
1 dozen screw wrenches, assorted	24 00	per dozen.
2 dozen large tin scales, with sets of weights	18 00	do
1 dozen small tin scales	18 00	do
1 dozen flat do	8 00	do
1 dozen set zinc weights, from 1 ounce to 1 pound	9 00	do
1 dozen set iron weights, from 4 to 25 pounds	10 00	do
30 pounds brass wire, No. 0	35	per pound.
30 pounds do No. 1	35	do
20 pounds do No. 2	35	do
30 pounds do No. 4	35	do

No. 11.—*Scale of offers to furnish timber, lumber, &c., at the navy yards at Philadelphia and Washington, under advertisement of 12th May, 1853. Offers received to 20th June; deliveries to be made in full by 30th December, 1854.*

	Bidders.	PHILADELPHIA.							WASHINGTON.
		Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	
		White oak timber.	Delaware white oak for trestle trees.	Susquehanna, or upland white oak.	White oak plank, &c., for boats.	Yellow pine for sloops, fore & main masts.	Blace spruce spars.	White pine lumber, &c.	Ash plank.
1	S. G. Bogert	$900 00	$483 50	$390 80	$270 00	$5,746 80	$1,500 00	$8,720 00	
2	Storer & Stephenson	1,750 00	438 80	312 64	360 00	8,021 45	1,650 00	13,350 00	
3	R. B. Knight					8,828 56			
4	J. M. Stannard*					Informal.			
5	Samuel B. Grice	580 00		195 40	270 00	6,246 40		13,095 00	
6	James N. McAlpine					3,854 09			
7	Oakman & Eldridge						905 00		
8	Wilson N. Cannont	Informal.							
9	J. Bigler							8,275 00	
10	John Petty					4,481 50			
11	George Parris	295 00	302 72						
12	Wm. C. Burroughs	350 00							
13	Lewis M. Beall & Bro.	352 50	266 75	175 86	180 00				
14	Thomas E. Baxter							10,145 00	
15	Doughten & Wilson							9,460 50	
16	Grice & Christman	452 50			265 50	9,926 30	1,350 00	13,196 00	
17	Storer & Stephenson								$6,275 00
18	A. J. Fitch								4,105 00
19	Samuel Grice								4,127 50
20	S. G. Bogert								4,040 00

* Offers for part of class. † Not guarantied.

Offers opened 22d June, 1853, in presence of Wm. B. Shubrick, P. C. Johnson, and J. H. Reily.

The following offers, being the lowest, are accepted, viz: No. 11, of G. Parris, for class 1; No. 13, of L. M. Beall & Bro., for classes 2, 3, and 4; No. 6, of J. N. McAlpine, for class 5; No. 7, of Oakman & Eldridge, for class 6; No. 9, of J. Bigler, for class 7, Philadelphia. No. 20, of S. G. Bogert, for ash plank, Washington.

June 28, 1853.

WM. B. SHUBRICK, *Chief of Bureau.*

No. 12.

Scale of offers to furnish timber, lumber, &c., at the navy yards at Gosport, and Pensacola, Florida, under advertisement of May 12, 1853. Offers received to June 20, deliveries to be made in full by December 30, 1854.

	Bidders.	GOSPORT.							PENSACOLA.		
		Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	Class 1.	Class 2.	Class 3.
		White oak timber.	White hickory butts and oar rafters.	Yellow pine plank stocks.	Elm plank.	White ash plank and boards.	Mahogany.	White pine plank and boards.	White oak plank.	Clear white pine.	Bl'k spruce spars.
1	Storer & Stephenson	$18,088 80	$2,037 50	$17,094 60	$1,850 00	$1,440 00	$1,705 00	$12,692 00			
2	S. G. Bogert	13,143 00	1,174 00	14,660 00	1,900 00	840 00	1,650 00	8,428 00			
3	Boyle & Company				1,375 00						
4	Samuel B. Grice	24,493 00		17,225 93		1,440 00		11,890 00			
5	Cornelius Kidder	15,018 00									
6	A. J. Fitch	15,943 00	2,530 00	15,594 00	1,320 00	1,200 00	1,645 00	8,528 00			
7	F. A. Southmayd		1,211 25								
8	John Petty	13,129 10		11,196 00	1,355 00						
9	Jos. Temple			10,436 40							
10	J. Bigler							8,230 70			
11	J. N. McAlpine			10,955 30							
12	Grice & Christman	26,129 80		24,920 76				11,484 60			
13	Samuel Marsh				1,640 00	960 00		9,619 00			
14	John Tunis				1,480 00						
15	Do					840 00	1,650 00	8,408 00			
16	Storer & Stephenson								$6,720 00	$2,520 00	$1,900 00
17	S. G. Bogert								4,480 00	1,680 00	800 00
18	A. J. Fitch								4,200 00	1,820 00	3,000 00
19	Chester P. Knapp										630 00
20	John Petty								7,000 00		

No. 12—Continued.

	Bidders.	GOSPORT.							PENSACOLA.		
		Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	Class 1.	Class 2.	Class 3.
		White oak timber.	White hickory butts and oar rafters.	Yellow pine plank stocks.	Elm plank.	White ash plank and boards.	Mahogany.	White pine plank and boards.	White oak plank.	Clear white pine.	B'lk spruce spars.
21	Jesse Pritchett	.....	.....	.....	.....	.....	.....	.....	$15,930 00	.....	.....
22	Oakman & Eldridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	$780 00
23	Wm. H. Baker	.....	.....	.....	.....	.....	.....	.....	3,920 00	.....	.....
24	Thomas Tatem*	.....	.....	.....	.....	.....	.....	.....	Informal.	.....	.....

* Not guarantied.

An offer was received from George W. Peete for deliveries at Gosport on the 24th June, after the expiration of the time limited.

Offers opened June 22, 1853, in presence of—
WM. B. SHUBRICK,
P. C. JOHNSON,
J. H. REILY.

The following offers, being the lowest, are accepted, viz: No. 8, of John Petty, for class No. 1; No. 2, of S. G. Bogert, for classes Nos. 2 and 5, (class No. 5 by lot;) No. 9, of Jos. Temple, for class No. 3; No. 6, of A. J. Fitch, for classes Nos. 4 and 6; No. 10, of J. Bigler, for class No. 7, Gosport. No. 23, of W. H. Baker, for class No. 1; No. 17, of S. G. Bogert, for class No. 2; No. 19, of C. P. Knapp, for class No. 3, Pensacola.

WM. B. SHUBRICK, *Chief of Bureau.*

JUNE 28, 1853.

List of contracts under the cognizance of the Bureau of Construction, Equipment and Repair, made and received from November 2, 1852, to November 1, 1853: prepared in conformity with an act of Congress of April 21, 1808.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1852.	1852.				
Oct. 20	Dec. 24	Harrison Loring	Steam-boilers, &c., for steamer John Hancock	$14,000 00	Charlestown.
1852.	1853.				
Dec. 15	Jan. 21	Harrison Loring	Altering boilers of John Hancock	5,000 00	Charlestown.
Dec. 20	Jan. 17	Ames & Green	2 6-horse steam engines, and 2 boilers for the same	1,200 00	Gosport.
Dec. 23	April 1	Murray & Hazlehurst	Altering boilers for steamer Princeton	18,500 00	Gosport.
1853.	1853.				
Jan. 29	April 15	Andrew Mehaffey	Altering boilers for steamer Alleghany	18,000 00	Gosport.
1853.	1858.				
Feb. 21	June 15	Grandison Spratt, (cancelled).	1,950 tons of American water-rotted, or Russia clean hemp—		
			American water-rotted hemp	230 00 per ton	Memphis.
			Russia clean hemp	216 00 do	Charlestown.
1853.	1854.				
March 15	March 1	John Petty	1,370 cubic feet mast and spar timber	49 per cub. ft.	Washington.
March 17	March 1	H. G. Ramsay	4,691 ....do....do....do	38 do	Pensacola.
March 19	March 1	J. N. McAlpine	6,440 ....do....do....do	33 do	Gosport.
			3,180 ....do....do....do	40 do	Kittery.
			4,110 ....do....do....do	40 do	Charlestown.
			15,790 ....do....do....do	40 do	Brooklyn.
			2,740 ....do....do....do	40 do	Philadelphia.
July 13	June 30	Caleb Bonsal	50 tons American gray pig-iron, (2,240 pounds)	34 70 per ton	Washington.
			100 pounds spelter solder	40 per pound.	
			50 pounds refined borax	50 do	
			4 sides heavy pump leather	7 00 per side.	
			20 crucibles, No. 50, American make	3 00 each.	
			20....do....No. 40....do	2 50 do	
			150 pounds white chalk	4 per pound.	
			20 casks Washington lime	1 25 per cask	Gosport.
			200 barrels tar	2 25 per barrel.	

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 13	June 30	C. Bonsal—Continued	150 barrels pitch	$2 00 per barrel.	Gosport.
			50 barrels soft turpentine, Virginia drip	3 50 do	
			10 barrels coal tar	2 00 do	
			25 barrels rosin	2 00 do	
			3,000 pounds best clean tallow, in barrels	10 per pound.	
			1,000 pounds best clean beeswax	25 do	
			3,000 pounds best spun cotton	13 do	
			100 hanks cod-line, fine	60 per hank.	
			100 hanks cod-line, stout	70 do	
			900 pounds brass, various sizes	37 per pound.	
July 13	June 30	Vickery & Griffith	10 dozen memorandum books	1 00 per dozen.	
			2 dozen expenditure books	24 00 do	
			1 dozen 3-quire receipt books	12 00 do	
			2 dozen 2-quire blank books	3 25 do	
			2 dozen 3-quire letter books	9 00 do	
			1 dozen 3-quire order books	12 00 do	
			2 reams blank monthly returns	25 per ream.	
			3 reams blank weekly returns	5 00 do	
			12 reams blank daily expenditures	25 do	
			8 dozen 1-pint bottles black ink	1 75 per dozen.	
			2 dozen ½-pint bottles red ink	1 00 do	
			3 dozen metal inkstands	3 00 do	
			3 dozen penknives, 4 blades	7 00 do	
			1 dozen ivory paper folders	5 00 do	
			20 reams foolscap paper	2 50 per ream.	
			5 reams letter paper	5 00 do	
			8 reams log paper	5 75 do	
			2 reams blotting paper	2 75 do	
			30 gross steel pens, with holders	75 per	
			5,000 slate pencils	3 00 per	

			1 dozen parallel rulers, 24 inches	13	50	per dozen.
			2 dozen sand boxes	2	12½	do
			30 pounds black sand		20	per pound.
			2 dozen double log slates	6	00	per dozen.
			4 gross red tape	1	75	per gross.
			15 pounds red wafers, (best)		37½	per pound.
			20 pounds red sealing-wax, (best)		62½	do
			6 dozen bolts silk taste		75	per dozen.
			1 dozen Gunter's scales	4	00	do
			1 dozen round rulers	3	50	per dozen.
			1 dozen flat rulers	4	00	do
July 14	June 30	Plume & Co	5,000 pounds best quality oakum		5.48½	per lb... Charlestown
July 14	June 30	John A. Higgins	1,500 pounds sheet lead, 4 pounds to foot		6	per pound.. Gosport.
			1,500....do.....do....3.....do		6	do
			5,000....do.....do....5.....do		6	do
			2,000....do.....do....6.....do		6	do
			2,000....do.....do....8.....do		6	do
			200 feet 2-inch drawn lead pipe		36	per foot.
			200 feet 1½-inch.....do		30	do
			200 feet 1-inch.....do		18	do
			200 feet ¾-inch.....do		15	do
			100 feet ½-inch		10	do
			3,000 pounds pig block tin		27	per pound.
			1,000 pounds pig zinc		6	do
			1,000 pounds sheet zinc		8	do
			36 boxes single tin	9	00	per box.
			20 boxes XX tin	11	00	do
			5 boxes XXX tin, 14 by 20 inches	13	00	do
July 14	June 30	Edward P. Tabb & Co	2 dozen carpenters' adzes	10	00	per dozen.
			2 dozen coopers' axes	10	00	do
			6 dozen brad-awls		30	do
			10 dozen wire awls		30	do
			20 dozen clamp brushes	2	50	do
			20 dozen hand-scrubbing brushes	1	50	do
			3 dozen camels'-hair brushes		50	do
			12 dozen short-handle tar brushes	2	50	do
			2 dozen dusting brushes	3	00	do
			6 dozen paint brushes, fine ground	8	00	do
			6 dozen paint brushes, coarse ground	6	00	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 14	1854. June 30	Edward P. Tabb & Co.....	10 dozen sash-tool brushes	$1 50 per dozen..	Gosport.
			20 dozen hickory brooms	2 00 do	
			50 dozen corn brooms	2 50 do	
			2 dozen iron braces and bits	24 00 do	
			1 dozen bung borers	5 00 do	
			1 dozen tap borers	5 00 do	
			200 Bath bricks	3 each.	
			2 dozen patent balances, (to weigh 500 lbs.)	24 00 per dozen.	
			50 pounds borax	25 per pound.	
			2 dozen butchers' cleavers	9 00 per dozen.	
			3 dozen carpenters' compasses	2 00 do	
			2 dozen smiths' callipers	5 00 do	
			3 dozen firmer chisels, assorted	3 00 do	
			2 dozen socket chisels	4 00 do	
			1 dozen silver calls	25 00 do	
			1 dozen coopers' compasses	6 00 do	
			2 dozen spring compasses	5 00 do	
			3 dozen coopers' crows	5 00 do	
			50 pounds crocus martis	10 per pound.	
			15 dozen glass chimneys, for lamps	1 50 per dozen.	
			2 dozen table catches	1 00 do	
			2 sets dies	3 00 per set.	
			2 dozen iron dividers	1 00 per dozen.	
			4 dozen 10-inch half-round bastard files	2 50 do	
			4 dozen 14-inch....do.....do.....	5 50 do	
			2 dozen 8-inch fine flat files	2 00 do	
			2 dozen 10-inch....do	2 75 do	
			2 dozen 11-inch....do	3 00 do	
			3 dozen 8-inch fine half-round files	2 00 do	
			2 dozen 10-inch.....do	2 75 do	

3 dozen 12-inch.....do.....	4	50	do
15 dozen nail gimlets, assorted.....		75	do
10 dozen spike gimlets	1	50	do
2 dozen carpenters' gauges.....	1	00	do
12 dozen grates, for drying stoves.....	2	00	do
6 dozen saddlers' hammers.....	3	00	do
100 pairs 2-inch brass-butt hinges	15	00	pr. 100 pairs.
200 pairs 1½-inch.....do.....	15	00	do
10 dozen flat brass hooks and eyes		35	per dozen.
15..do..brass clothes' hooks.....		75	do
20..do..brass flush-rings		80	do
3...do..pallet knives	2	00	do
2.. do..putty knives	2	00	do
4...do..shoemakers' knives	1	00	do
3...do..butchers' knives.....	2	00	do
2...do..sail knives	1	00	do
5...do..fishing lines, 40 fathoms long.....	1	00	do
2 turning lathes.....	20	00	each.
5 dozen hand-lead lines, 60 fathoms long.....	30	00	per dozen.
20..do..log-lines, 1 inch, 60 fathoms long	10	00	do
1...do..coasting lines, 1 inch, 100 fathoms long.....	50	00	do
2...do..hand-leads	10	00	do
1...do..mortice locks, mineral knobs.....	8	00	do
2...do.. iron closet-locks	2	00	do
2...do..iron closet locks, larger	3	00	do
2...do..iron drawer-locks.....	1	00	do
20..do..iron padlocks, keys to differ	1	50	do
2...do..brass...do.....do.....	5	00	do
10..do..brass screw-hooks		30	do
4...do..iron latches	3	00	do
10..do..life-preservers.....	30	00	do
10..do..pitch-mops.....	3	00	do
500 pounds 4-penny iron-cut nails.....		4	per pound.
1,000 pounds 6-penny....do.....		5	do
1,500 pounds 8 penny....do.....		5	do
2,000 pounds 10-penny...do.....		5	do
1,500 pounds 12-penny...do.....		4	do
900 pounds 20-penny.....do.....		4	do
500 pounds 30-penny.....do.....		4	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.		Navy yard where deliverable.
1853.	1854.					
July 14	June 30	Edward P. Tabb & Co.....	200 pounds 4-penny copper-cut nails.....	$0 35	per pound.	Gosport.
			500 pounds 8-penny .....do.....	47	do	
			1,000 pounds 10-penny ...do.....	48	do	
			200 pounds 20-penny .....do.....	30	do	
			800 pounds 40-penny .....do.....	30	do	
			400 pounds 6-penny iron-wrought nails.....	10	do	
			500 pounds 8-penny.....do.....	10	do	
			600 pounds 10-penny.....do.....	8	do	
			150 pounds 1½-inch iron finishing nails.....	10	do	
			100 pounds 1-inch.....do.....	10	do	
			90 pounds ¾-inch.....do.....	8	do	
			80 pounds ½-inch.....do.....	8	do	
			10 dozen roping palms.....	7 00	per dozen.	
			10 dozen seaming palms.....	7 00	do	
			2 dozen sail prickers.....	3 00	do	
			2 dozen pincers.....	2 00	do	
			1 dozen pliers.....	3 00	do	
			2 dozen smoothing planes.....	9 00	do	
			4 dozen jack planes	9 00	do	
			6 dozen wood hand-pumps	6 00	do	
			2 dozen sail rubbers.....	3 00	do	
			1 dozen steelyards	12 00	do	
			1 dozen bread sieves	7 00	do	
			3 dozen shovels.....	6 00	do	
			2 dozen spades	8 00	do	
			1 dozen cross-cut saws, framed	24 00	do	
			2 dozen wood saws.....	10 00	do	
			1 dozen panel saws.....	15 00	do	
			2 dozen compass saws	4 00	do	
			1 dozen key-hole and pad saws.....	5 00	do	

1 dozen hack saws	4 00	do
1 dozen clamp screws	6 00	do
2 dozen spoke shaves	5 00	do
2 dozen trying squares	3 00	do
2 dozen iron....do	1 00	do
1 dozen saw-sets	2 00	do
1 dozen large screw plates and taps	8 00	do
1 dozen small.....do.....do	6 00	do
2 dozen tinners' shears	5 00	do
2 dozen hand....do	6 00	do
30 pounds salmoniac	14	per pound.
10 gross 3-inch iron screws	50	per gross.
10 gross 2½-inch..do	50	do
25 gross 1½-inch..do	70	do
80 gross 1-inch...do	50	do
20 gross ¾-inch...do	20	do
5 gross 3-inch brass screws	6 00	do
10 gross 2½-inch....do	2 50	do
10 gross 1¾-inch....do	2 00	do
10 gross 1-inch.....do	1 00	do
1,000 pounds 5-inch cut-iron spikes	4	per pound.
500 iron welded thimbles	5 00	per 100.
20,000 16-ounce iron-cut tacks	12	per 1,000.
100,000 6-ounce....do....do	6	do
100,000 4-ounce....do....do	5	do
100,000 16-ounce iron pump tacks	12	do
20,000 1-inch copper-cut tacks	40	do
100,000 ¾-inch....do.....do	50	do
50,000 ⅞-inch.....do.....do	50	do
1 dozen screw wrenches, assorted	24 00	per dozen.
2 dozen large tin scales, with sets of weights	18 00	do
1 dozen small tin scales	18 00	do
1 dozen flat....do	8 00	do
1 dozen set zinc weights, from 1 ounce to 1 pound	9 00	do
1 dozen set iron weights, from 4 to 28 pounds	10 00	do
30 pounds brass wire, No. 0	35	per pound.
30 pounds.....do.....No. 1	35	do
20 pounds.....do.....No. 2	35	do
30 pounds.....do.....No. 4	35	do

No. 10.

Scale of offers to furnish timber, lumber, &c., at the navy yard, Brooklyn, N. Y., under advertisement of May 12, 1853. Offers received to June 20; deliveries to be made in full by December 30, 1854.

	Bidders.	Class 1. White oak.	Class 2. White oak knees.	Class 3 White oak plank.	Class 4. White pine.	Class 5. Black spruce spars.	Class 6. Yellow pine mast and spar timber.
	Storer & Stephenson	$19,200 00	$11,647 50	$540 00	$8,870 00	$2,050 00	$6,750 05
1	S. G. Bogert	17,600 00	6,645 00	450 00	7,208 00	2,700 00	4,307 40
2	John Petty	17,800 00	.....	.....	.....	.....	2,879 15½
3	John N. McAlpine	.....	.....	.....	.....	.....	3,090 97
4	Oakman & Eldridge	.....	.....	.....	.....	1,430 00	.....
5	Lewis Beall	.....	11,918 75	.....	.....	.....	.....
6	Fred. A Southmayd	.....	.....	351 00	.....	1,260 00	.....
7	James Bigler	.....	.....	396 00	7,160 00	.....	.....
8	A. J. Fitch	17,500 00	6,880 00	405 00	7,028 00	2,000 00	4,990 30
9	Wm. C. Burroughs	.....	.....	.....	.....	.....	.....
10	David D. Barber*	Informal.	.....	.....	.....	.....	.....
11	John R. Lutton	.....	.....	.....	.....	.....	.....
12	Charles Rolfe	.....	.....	.....	7,012 50	.....	.....
13	Philip Otterback	.....	.....	.....	.....	.....	.....
14	Grice & Christman	24,800 00	.....	.....	14,393 00	.....	4,656 35
15	William White	19,200 00	.....	.....	.....	.....	.....
16	Degraw, Bradbury & Co	18,000 00	.....	.....	.....	.....	.....
17	Boyle & Co	.....	.....	.....	.....	.....	.....
18	M. K. Keath & Co	.....	.....	.....	8,760 00	.....	.....
19	John Nash	17,887 50	.....	.....	.....	.....	3,489 50
20							

* Not certified.

			5 dozen composition bibb-cocks	10 00	per dozen.	
			2 dozen large size stone China bowls for water closets	12 00	do	
July 14	June 30	Kennedy & Hill	1,000 feet best double thick crown glass, 14 by 16 inches	14	per foot.	
			500 feet best double thick crown glass, 14 by 18 inches	14	do	
			500 feet best double thick crown glass, 16 by 22 inches	14	do	
			4,000 pounds white lead, in oil, 25-pound kegs	8	per pound.	Pensacola.
			1,000 pounds red lead, dry	8½	do	
			100 pounds black lead, dry	6	do	
			200 pounds zinc paint	8½	do	
			500 pounds green paint, in oil	10	do	
			200 gallons spirits turpentine	60	per gallon.	
			10 gallons Japan varnish	1 50	do	
			10 gallons copal varnish	2 40	do	
			400 gallons linseed oil	72	do	
			1 gallon muriatic acid	1 80	do	
1853.	1853.		20 gallons sal ammoniac	16	do	
July 15	Sept. 30	B. H. Ellicott	297,500 pounds tank iron, different sizes	6½	per pound.	Washington
1853.	1854.					
July 15	June 30	McKim & Cutter	100 memorandum books, large	10	each.	Charlestown.
			100.....do.....small	12	do	
			20 blank books, 2 quires	50	do	
			20.....do.....3 quires	50	do	
			10 order books, 4 quires	80	do	
			10 letter books, 4 quires	90	do	
			10 day books, 6 quires	1 50	do	
			10 requisition books, 4 quires	2 75	do	
			50 pieces India rubber	2	per piece.	
			120 ½-pint bottles black ink	10	per bottle.	
			24.....do.....red ink	15	do	
			50 inkstands	15	each.	
			5 inkstandishes	2 50	do	
			24 penknives	62½	do	
			10 reams log paper	4 25	per ream.	
			20 reams foolscap paper	4 00	do	
			20 reams letter....do	4 00	do	
			20 reams envelope..do	2 50	do	
			10 reams blotting..do	2 00	do	
			500 large envelopes	35	per 100.	
			500 small....do	18	do	

No. 11.—*Scale of offers to furnish timber, lumber, &c., at the navy yards at Philadelphia and Washington, under advertisement of 12th May, 1853. Offers received to 20th June; deliveries to be made in full by 30th December, 1854.*

	Bidders.	PHILADELPHIA.							WASHINGTON.
		Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	
		White oak timber.	Delaware white oak for trestle trees.	Susquehanna, or upland white oak.	White oak plank, &c., for boats.	Yellow pine for sloops, fore & main masts.	Blace spruce spars.	White pine lumber, &c.	Ash plank.
1	S. G. Bogert	$900 00	$483 50	$390 80	$270 00	$5,746 80	$1,500 00	$8,720 00	
2	Storer & Stephenson	1,750 00	438 80	312 64	360 00	8,021 45	1,650 00	13,350 00	
3	R. B. Knight					8,828 56			
4	J. M. Stannard*					Informal.			
5	Samuel B. Grice	580 00		195 40	270 00	6,246 40		13,095 00	
6	James N. McAlpine					3,854 09			
7	Oakman & Eldridge						905 00		
8	Wilson N. Cannont	Informal.							
9	J. Bigler							8,275 00	
10	John Petty					4,481 50			
11	George Parris	295 00	302 72						
12	Wm. C. Burroughs	350 00							
13	Lewis M. Beall & Bro.	352 50	266 75	175 86	180 00				
14	Thomas E. Baxter							10,145 00	
15	Doughten & Wilson							9,460 50	
16	Grice & Christman	452 50			265 50	9,926 30	1,350 00	13,196 00	
17	Storer & Stephenson								$6,275 00
18	A. J. Fitch								4,105 00
19	Samuel Grice								4,127 50
20	S. G. Bogert								4,040 00

* Offers for part of class. † Not guarantied.

Offers opened 22d June, 1853, in presence of Wm. B. Shubrick, P. C. Johnson, and J. H. Reily.

The following offers, being the lowest, are accepted, viz: No. 11, of G. Parris, for class 1; No. 13, of L. M. Beall & Bro., for classes 2, 3, and 4; No. 6, of J. N. McAlpine, for class 5; No. 7, of Oakman & Eldridge, for class 6; No. 9, of J. Bigler, for class 7, Philadelphia. No. 20, of S. G. Bogert, for ash plank, Washington.

June 28, 1853.

WM. B. SHUBRICK, *Chief of Bureau.*

72.....do	10	do
24 ivory paper folders	16	do
6 dozen pint bottles black ink	1 00	per dozen.
12 dozen ½-pint.....do	44	do
1 dozen ½-pint bottles carmine ink	25	do
3 dozen penknives	7 44	do
½ dozen desk knives	1 88	do
½ dozen erasure knives	1 88	do
6 cases drawing instruments	1 25	per case.
3 dozen papers ink powders	25	per dozen.
6 dozen metal inkstands	1 50	do
6 dozen pieces India rubber	25	do
25 reams cap paper	3 50	per ream.
6 reams cap regulation paper	50	do
25 reams letter paper	3 50	do
8 reams buff envelope paper	8 50	do
3 reams thick blotting..do	3 50	do
2 reams log paper	50	do
24 sheets elephant drawing paper	8	per sheet.
24 sheets double elephant drawing paper	10	do
24 sheets double elephant best French tracing paper	12½	do
2,000 slate pencils, white Rutland	10	per 100.
6 gross Faber's best lead pencils, Nos. 2 and 3	5 00	per gross.
1 dozen drawing pencils	95	do
1.....do.....pins	10	do
1.....do.....pens	10	do
4 boxes water colors and pencils, complete	1 00	per box.
20 gross Gillott's eagle pens	25	per gross.
2 gross steel pens	2 00	do
12 dozen penholders, assorted	50	per dozen.
12 ivory pounce boxes, with pounce	2	each.
5,000 quills, best No. 80	2 00	per 1,000.
24 wafer seals	10	each.
6 dozen ½-pint papers black sand	12	per dozen.
2 dozen hard wood sand boxes	1 20	do
6 slates	10	each.
24 double log slates	1 00	do
3 gross red tape	1 80	per gross.
1 dozen rolling rulers	1 50	per dozen.

No. 12—Continued.

	Bidders.	GOSPORT.							PENSACOLA.		
		Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	Class 1.	Class 2.	Class 3.
		White oak timber.	White hickory butts and oar rafters.	Yellow pine plank stocks.	Elm plank.	White ash plank and boards.	Mahogany.	White pine plank and boards.	White oak plank.	Clear white pine.	B'lk spruce spars.
21	Jesse Pritchett	.....	.....	.....	.....	.....	.....	.....	$15,930 00	.....	.....
22	Oakman & Eldridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	$780 00
23	Wm. H. Baker	.....	.....	.....	.....	.....	.....	.....	3,920 00	.....	.....
24	Thomas Tatem*	.....	.....	.....	.....	.....	.....	.....	Informal.	.....	.....

* Not guarantied.

An offer was received from George W. Pecte for deliveries at Gosport on the 24th June, after the expiration of the time limited.

Offers opened June 22, 1853, in presence of—
WM. B. SHUBRICK,
P. C. JOHNSON,
J. H. REILY.

The following offers, being the lowest, are accepted, viz: No. 8, of John Petty, for class No. 1; No. 2, of S. G. Bogert, for classes Nos. 2 and 5, (class No. 5 by lot;) No. 9, of Jos. Temple, for class No. 3; No. 6, of A. J. Fitch, for classes Nos. 4 and 6; No. 10, of J. Bigler, for class No. 7, Gosport. No. 23, of W. H. Baker, for class No. 1; No. 17, of S. G. Bogert, for class No. 2; No. 19, of C. P. Knapp, for class No. 3, Pensacola.

JUNE 23, 1853.

WM. B. SHUBRICK, *Chief of Bureau.*

			150 sides—say 900 pounds best quality bellows leather	16	per pound.	Gosport
			200 hides—say 4,000 pounds best quality rigging leather	13½	do	
			10 sides harness leather	5 50	per side.	
			10 sides bridle leather	4 00	do	
			150 feet suction hose, (leather)	2 50	per foot.	
			300 feet leading hose, (leather)	60	do	
			100 yards green baize	65	per yard.	
			500 yards bleached muslin, ⅞ yard wide	10	do	
			50 pounds shoe thread	50	per pound.	
			100 pounds thrumbs, (fine and long)	10	do	
July 18	June 30	Southard, Hubbard & Co	500 gallons pure winter-strained sperm oil	1 30	per gallon.	Charlestown.
			6,000 pounds best quality pure sperm candles	27	per pound.	
			1,000 gallons best quality winter-strained sperm oil	1 32	per gallon.	Pensacola.
			2,000 pounds best quality sperm candles, (6 to pound)	30	per pound.	
July 19	June 30	Horton, Hall & Co	1 dozen broad axes, handled	12 00	per dozen.	Charlestown.
			2 dozen narrow axes, handled	12 00	do	
			1 dozen carpenters' adzes, handled	24 00	do	
			1 dozen hollow adzes	6 00	do	
			1 dozen coopers' adzes	18 00	do	
			50 brad awls, assorted	4	each.	
			50 shoe awls, assorted	4	do	
			6 dozen patent augers, with handles	1 00	per dozen.	
			6 braces and bits, (48 bits)	4 00	each.	
			1 dozen coopers' axes, handled	6 00	per dozen.	
			6 iron braces and bits, (20 bits)	2 00	each.	
			4 dozen 4-inch brass flush bolts	1 00	per dozen.	
			10 dozen brass buttons on plates	1 00	do	
			6 steel-tongued bevils	75	each.	
			6 tap borers	25	do	
			4 bung borers	50	do	
			6 Dearborn's patent balances, (to weigh 50 pounds)	1 50	each.	
			6 spring balances	2 00	do	
			100,000 brads, ½ to 1½ inch	12	per 1,000.	
			50,000 Randal's patent brads, ½ to 2 inches	20	do	
			200 pounds sheet brass, assorted	15	per pound.	
			100 pounds copper burrs	15	do	
			1 dozen carpenters' compasses	3 00	per dozen.	
			1 dozen smiths' callipers	5 00	do	
			6 coopers' callipers	75	each.	

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 13	June 30	C. Bonsal—Continued	150 barrels pitch	$2 00 per barrel.	Gosport.
			50 barrels soft turpentine, Virginia drip	3 50 do	
			10 barrels coal tar	2 00 do	
			25 barrels rosin	2 00 do	
			3,000 pounds best clean tallow, in barrels	10 per pound.	
			1,000 pounds best clean beeswax	25 do	
			3,000 pounds best spun cotton	13 do	
			100 hanks cod-line, fine	60 per hank.	
			100 hanks cod-line, stout	70 do	
			900 pounds brass, various sizes	37 per pound.	
July 13	June 30	Vickery & Griffith	10 dozen memorandum books	1 00 per dozen.	
			2 dozen expenditure books	24 00 do	
			1 dozen 3-quire receipt books	12 00 do	
			2 dozen 2-quire blank books	3 25 do	
			2 dozen 3-quire letter books	9 00 do	
			1 dozen 3-quire order books	12 00 do	
			2 reams blank monthly returns	25 per ream.	
			3 reams blank weekly returns	5 00 do	
			12 reams blank daily expenditures	25 do	
			8 dozen 1-pint bottles black ink	1 75 per dozen.	
			2 dozen ½-pint bottles red ink	1 00 do	
			3 dozen metal inkstands	3 00 do	
			3 dozen penknives, 4 blades	7 00 do	
			1 dozen ivory paper folders	5 00 do	
			20 reams foolscap paper	2 50 per ream.	
			5 reams letter paper	5 00 do	
			8 reams log paper	5 75 do	
			2 reams blotting paper	2 75 do	
			30 gross steel pens, with holders	75 per gross.	
			5,000 slate pencils	3 00 per 1[illegible]	

1 dozen carpenters' gauges	1 50	do
1 dozen gridirons	12 00	do
1 dozen griddles	12 00	do
50 gross metallic grommets, assorted	2 75	per gross.
6 dozen brass hooks and eyes for furniture	3 00	per dozen.
6 dozen cabin-door hooks, 4 and 6-inch	75	do
3 dozen hatchets	7 50	do
4 dozen claw hammers	7 50	do
1 dozen riveting hammers	2 00	do
1 dozen wrench hammers	6 00	do
3 dozen brass hinges, 4½ by 3½ inches	12 50	do
3 dozen ....do.....4 by 3½ inches	10 25	do
3 dozen ....do.....3 by 3 inches	2 00	do
4 dozen ....do.....2½ by 2 inches	3 00	do
4 dozen ....do.....2 by 2 inches	2 25	do
4 dozen brass secretary hinges and springs	12 25	do
2 dozen iron butt-hinges, 4 by 4	1 62	do
2 dozen ....do.....3 by 3	1 12	do
10,000 tenter hooks	25	per 1,000.
6 waffle irons	75	each.
6 marking irons	25	do
6 beek irons	7 00	do
3 coopers' long jointers	1 50	do
3 coopers' short jointers	1 50	do
12 copper tea kettles	6 00	do
12 iron tea kettles	1 25	do
12 fish kettles	2 75	do
6 pitch kettles	2 00	do
6 glue kettles	33	do
6 gross blank keys	6 12	per gross.
1 dozen shoe knives	1 00	per dozen.
1 dozen drawing knives	5 50	do
1 dozen pallet knives	2 25	do
½ dozen putty knives	2 24	do
4 hollowing knives	25	each.
3 rounding knives	1 00	do
6 sail knives	25	do
6 butcher knives	50	do
6 cheese knives	50	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 14	1854. June 30	Edward P. Tabb & Co.....	10 dozen sash-tool brushes	$1 50 per dozen..	Gosport.
			20 dozen hickory brooms	2 00 do	
			50 dozen corn brooms	2 50 do	
			2 dozen iron braces and bits	24 00 do	
			1 dozen bung borers	5 00 do	
			1 dozen tap borers	5 00 do	
			200 Bath bricks	3 each.	
			2 dozen patent balances, (to weigh 500 lbs.)	24 00 per dozen.	
			50 pounds borax	25 per pound.	
			2 dozen butchers' cleavers	9 00 per dozen.	
			3 dozen carpenters' compasses	2 00 do	
			2 dozen smiths' callipers	5 00 do	
			3 dozen firmer chisels, assorted	3 00 do	
			2 dozen socket chisels	4 00 do	
			1 dozen silver calls	25 00 do	
			1 dozen coopers' compasses	6 00 do	
			2 dozen spring compasses	5 00 do	
			3 dozen coopers' crows	5 00 do	
			50 pounds crocus martis	10 per pound.	
			15 dozen glass chimneys, for lamps	1 50 per dozen.	
			2 dozen table catches	1 00 do	
			2 sets dies	3 00 per set.	
			2 dozen iron dividers	1 00 per dozen.	
			4 dozen 10-inch half-round bastard files	2 50 do	
			4 dozen 14-inch....do.....do.....	5 50 do	
			2 dozen 8-inch fine flat files	2 00 do	
			2 dozen 10-inch....do.....	2 75 do	
			2 dozen 11-inch....do.....	3 00 do	
			3 dozen 8-inch fine half-round files	2 00 do	
			2 dozen 10-inch.....do.....	2 75 do	

3 dozen 12-inch.....do	4	50	do
15 dozen nail gimlets, assorted		75	do
10 dozen spike gimlets	1	50	do
2 dozen carpenters' gauges	1	00	do
12 dozen grates, for drying stoves	2	00	do
6 dozen saddlers' hammers	3	00	do
100 pairs 2-inch brass-butt hinges	15	00	pr. 100 pairs.
200 pairs 1½-inch.....do	15	00	do
10 dozen flat brass hooks and eyes		35	per dozen.
15..do..brass clothes' hooks		75	do
20..do..brass flush-rings		80	do
3...do..pallet knives	2	00	do
2.. do..putty knives	2	00	do
4...do..shoemakers' knives	1	00	do
3...do..butchers' knives	2	00	do
2...do..sail knives	1	00	do
5...do..fishing lines, 40 fathoms long	1	00	do
2 turning lathes	20	00	each.
5 dozen hand-lead lines, 60 fathoms long	30	00	per dozen.
20..do..log-lines, 1 inch, 60 fathoms long	10	00	do
1...do..coasting lines, 1 inch, 100 fathoms long	50	00	do
2...do..hand-leads	10	00	do
1...do..mortice locks, mineral knobs	8	00	do
2...do.. iron closet-locks	2	00	do
2...do..iron closet locks, larger	3	00	do
2...do..iron drawer-locks	1	00	do
20..do..iron padlocks, keys to differ	1	50	do
2...do..brass...do.....do	5	00	do
10..do..brass screw-hooks		30	do
4...do..iron latches	3	00	do
10..do..life-preservers	30	00	do
10..do..pitch-mops	3	00	do
500 pounds 4-penny iron-cut nails		4	per pound.
1,000 pounds 6-penny....do		5	do
1,500 pounds 8 penny....do		5	do
2,000 pounds 10-penny...do		5	do
1,500 pounds 12-penny...do		4	do
900 pounds 20-penny.....do		4	do
500 pounds 30-penny.....do		4	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 14	1854. June 30	Edward P. Tabb & Co.....	200 pounds 4-penny copper-cut nails.....	$0 35 per pound.	Gosport.
			500 pounds 8-penny .....do.....	47 do	
			1,000 pounds 10-penny ...do.....	48 do	
			200 pounds 20-penny .....do.....	30 do	
			800 pounds 40-penny .....do.....	30 do	
			400 pounds 6-penny iron-wrought nails.....	10 do	
			500 pounds 8-penny.....do.....	10 do	
			600 pounds 10-penny.....do.....	8 do	
			150 pounds 1¼-inch iron finishing nails.....	10 do	
			100 pounds 1-inch.....do.....	10 do	
			90 pounds ¾-inch.....do.....	8 do	
			80 pounds ½-inch.....do.....	8 do	
			10 dozen roping palms.....	7 00 per dozen.	
			10 dozen seaming palms.....	7 00 do	
			2 dozen sail prickers.....	3 00 do	
			2 dozen pincers.....	2 00 do	
			1 dozen pliers.....	3 00 do	
			2 dozen smoothing planes.....	9 00 do	
			4 dozen jack planes	9 00 do	
			6 dozen wood hand-pumps	6 00 do	
			2 dozen sail rubbers.....	3 00 do	
			1 dozen steelyards	12 00 do	
			1 dozen bread sieves	7 00 do	
			3 dozen shovels.....	6 00 do	
			2 dozen spades	8 00 do	
			1 dozen cross-cut saws, framed	24 00 do	
			2 dozen wood saws.....	10 00 do	
			1 dozen panel saws.....	15 00 do	
			2 dozen compass saws	4 00 do	
			1 dozen key-hole and pad saws.....	5 00 do	

4 screw-plates and taps, large	2 75	each.
4 ..... do ..... do .... small	2 75	do
4 large bench vices	6 00	do
2 small .... do	1 25	do
4 hand vices	63	do
3 coopers' vices	25	do
6 sets iron weights, 1 to 4 pounds	40	per set.
4 ... do ... do ..... 4 to 28 pounds	50	do
6 sets zinc weights, 1 ounce to 1 pound	75	do
300 pounds brass wire, assorted	15	per pound.
200 pounds iron wire .... do	10	do
150 pounds steel wire ... do	10	do
100 pounds copper wire .. do	15	do
500 pounds pig zinc	6¼	do
500 pounds sheet zinc	11	do
5 dozen hickory brooms	2 00	per dozen.
5 dozen coru brooms	2 50	do
5 dozen whitewash brushes	12 00	do
5 dozen paint brushes	3 00	do
2 dozen sash-tool brushes	75	do
5 dozen camels'-hair brushes	25	do
5 dozen scrubbing brushes	1 50	do
2 dozen short-handled tar brushes	30	do
2 dozen long-handled tar brushes	40	do
1 dozen dusting brushes	1 50	do
1 dozen varnish brushes	2 00	do
3 dozen rolls worsted binding	1 25	do
20 pieces blue bunting, 40 yards long, 18 inches wide	4 00	per piece.
10 ..... do .... do ..... 40 .... do ..... 9 ..... do	1 25	do
20 pieces scarlet bunting, 40 .... do ..... 18 ..... do	6 50	do
10 ..... do .... do ..... 40 .... do ..... 9 ..... do	3 75	do
20 pieces white bunting .. 40 .... do ..... 18 ..... do	6 00	do
10 ..... do .... do ..... 40 .... do ..... 9 ..... do	3 25	do
5 pieces yellow bunting .. 40 .... do ..... 18 ..... do	1 00	do
5 pieces green bunting .. 40 .... do ..... 18 ..... do	1 00	do
500 pounds cotton batting	5	per pound.
10 earthen bowls, for water-closets	3 00	each.
10 silver calls	4 00	do
60 yards muslin, ¼ wide	8	per yard.

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 14	June 30	E. P. Tabb & Co.—Continued.	30 pounds brass wire, No. 5	$0 35 per pound.	Gosport.
			30 pounds.....do.....No. 6	35 do	
			10 pounds.....do.....No. 9	35 do	
			10 pounds.....do.....No. 17	35 do	
			10 pounds.....do.....No. 20	35 do	
			10 pounds.....do.....No. 22	35 do	
			20 pounds copper wire, No. 0	47 do	
			20 pounds.....do.....No. 1	47 do	
			20 pounds.....do.....No. 2	47 do	
			10 pounds.....do.....No. 3	47 do	
			10 pounds.....do.....No. 17	47 do	
			20 pounds.....do.....No. 20	47 do	
			15 pounds iron wire...No. 4	10 do	
			20 pounds.....do.....No. 6	10 do	
			20 pounds.....do.....No. 8	10 do	
			25 pounds.....do.....No. 11	10 do	
			25 pounds.....do.....No. 14	10 do	
			25 pounds.....do.....No. 15	10 do	
			10 pounds.....do.....No. 19	10 do	
			10 pounds.....do.....No. 20	10 do	
			10 pounds.....do.....No. 22	10 do	
			50 pounds steel wire...No. 10	35 do	
			1 dozen copper tea kettles	12 00 per dozen.	
			6 dozen iron.....do	6 00 do	
			2 dozen fish kettles	15 00 do	
			6 dozen bake pans	7 00 do	
			2 dozen gridirons	8 00 do	
			1 dozen waffle irons	6 00 do	
			50 gross lampwick, wove	50 gross.	
			150 pounds lampwick, spun	20 per pound.	

20 pounds shoe thread	45	do
50 pounds thread, blue, white, and red	62	do
300 pounds sewing twine (flax)	30	do
200 pounds.....do.....(cotton)	25	do
50 pounds whipping twine	37	do
500 pounds tallow	10	do
100 dozen Russia mats	1 50	per dozen.
500 barrels Suffolk tar	2 75	per barrel.
25 barrels rosin	1 50	do
50 barrels pitch	2 60	do
10 barrels turpentine	4 00	do
200 pounds yellow beeswax	40	per pound.
50 pounds mop yarn	10	do
500 sheets mica	10	per sheet.
20 yards cotton velvet	50	per yard.
10 barrels coal tar	2 00	per barrel.
10,000 pounds pure dry lead, white	7½	per pound.
4,000 pounds lampblack	1	do
4,000 pounds whiting	¾	do
2,000 pounds Paris white	1	do
2,000 pounds dry lead, red	7	do
1,000 pounds litharge	5	do
25 pounds Chinese vermilion	1 50	do
100 pounds chrome green	20	do
20 pounds ultra marine blue	18	do
100 pounds gum shellac	15	do
30 gallons copal varnish	1 50	per gallon.
10 gallons coach varnish	2 75	do
800 gallons raw Dutch linseed oil	70	do
400 gallons spirits turpentine	45	do
30 gallons alcohol	75	do
25 pounds Chinese blue	25	per pound.
10 pounds chrome yellow	20	do
500 lights, 7 by 9, double thick Redford glass	3	per light.
600 lights, 8 by 10.....do	6	do
600 lights, 10 by 12.....do	12	do
300 lights, 12 by 15.....do	15	do
300 lights, 10 by 20.....do	15	do
200 lights, 14 by 26.....do	30	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 15	June 30	McKim & Cutter—Continued.	60 sheets drawing paper	$0 25 per sheet..	Charlestown.
			120 cards steel pens	20 per card.	
			10 parallel rulers	1 25 each.	
			10 round....do	8 do	
			10 flat.....do	7 do	
			10 rolling....do	8 do	
			50 dozen slate pencils	2 per dozen	
			50 dozen lead...do	33½ do	
			10 dozen camels'-hair pencils	6 do	
			5,000 quills	2 00 per 1,000.	
			20 sand boxes	10 each.	
			50 pounds sand	3 per pound.	
			20 log slates	50 each.	
			20 single slates	15 do	
			5 boxes water colors	1 00 do	
			20 pounds wafers	40 per pound.	
			100 papers ink powders	5 per paper.	
			12 boxes and pounce	20 each.	
			12 Gunter's scales	37½ do	
			12 wafer seals	12½ do	
			10 dozen bolts red tape	30 per dozen.	
			2 dozen paper folders	1 75 do	
			5 boxes mathematical instruments	4 00 per box.	
			20 pounds sealing wax	75 per pound.	
			5 dozen bolts taste	1 50 per dozen.	
July 16	June 30	S. & E. Knight	100 cords mixed oak wood	7 89 per cord.	
July 16	June 30	McSpeden & Baker	12 letter books, 3 quires	45 each.....	Brooklyn.
			48 blank books, 2 quires	24 do	
			48.....do.....1 quire	15 do	
			72 memorandum books	12½ do	

72.....do	10	do
24 ivory paper folders	16	do
6 dozen pint bottles black ink	1 00	per dozen.
12 dozen ½-pint.....do	44	do
1 dozen ½-pint bottles carmine ink	25	do
3 dozen penknives	7 44	do
½ dozen desk knives	1 88	do
½ dozen erasure knives	1 88	do
6 cases drawing instruments	1 25	per case.
3 dozen papers ink powders	25	per dozen.
6 dozen metal inkstands	1 50	do
6 dozen pieces India rubber	25	do
25 reams cap paper	3 50	per ream.
6 reams cap regulation paper	50	do
25 reams letter paper	3 50	do
8 reams buff envelope paper	8 50	do
3 reams thick blotting..do	3 50	do
2 reams log paper	50	do
24 sheets elephant drawing paper	8	per sheet.
24 sheets double elephant drawing paper	10	do
24 sheets double elephant best French tracing paper	12½	do
2,000 slate pencils, white Rutland	10	per 100.
6 gross Faber's best lead pencils, Nos. 2 and 3	5 00	per gross.
1 dozen drawing pencils	95	do
1.....do.....pins	10	do
1.....do.....pens	10	do
4 boxes water colors and pencils, complete	1 00	per box.
20 gross Gillott's eagle pens	25	per gross.
2 gross steel pens	2 00	do
12 dozen penholders, assorted	50	per dozen.
12 ivory pounce boxes, with pounce	2	each.
5,000 quills, best No. 80	2 00	per 1,000.
24 wafer seals	10	each.
6 dozen ½-pint papers black sand	12	per dozen.
2 dozen hard wood sand boxes	1 20	do
6 slates	10	each.
24 double log slates	1 00	do
3 gross red tape	1 80	per gross.
1 dozen rolling rulers	1 50	per dozen.

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.		Navy yard where deliverable.
1853.	1854.					
July 16	June 30	McSpeden & Baker—Cont'd..	1 dozen parallel rulers, 24 inches, ebony	$3 00	per dozen..	Brooklyn.
			1 dozen Gunter's scales	1 50	do	
			3 dozen rolls silk taste	50	do	
			10 pounds best scarlet wafers	49	per pound.	
			10 pounds best American sealing wax	49	per pound.	
July 16	June 30	T. E. Baxter	4 rolls of 6-pound lead	15 00	per roll ..	Philadelphia
			4 rolls of 8-pound lead	18 00	do	
			2,400 pounds sheet zinc	13	per pound.	
			800 pounds block tin	38	do	
July 17	June 30	George Crosby	200 cords (of 128 cubic feet) young-growth hickory wood	7 00	per cord ..	Brooklyn.
			200 cords (of 128 cubic feet) young-growth oak wood	5 00	do	
July 18	June 30	B. F. Wilson	50 feet 7 by 9 inches Redford crown glass	9	per foot.	
			100 feet 8 by 10 inches ..... do	10	do	
			200 feet 9 by 9 inches ..... do	10	do	
			100 feet 10 by 12 inches ..... do	12	do	
			100 feet 10 by 14 inches ..... do	15	do	
			50 feet 11 by 15 inches ..... do	25	do	
			50 feet 11 by 17 inches ..... do	26	do	
			50 feet 12 by 12 inches ..... do	20	do	
			50 feet 12 by 16 inches ..... do	25	do	
			50 feet 12 by 18 inches ..... do	25	do	
			50 feet 14 by 20 inches ..... do	28	do	
			100 feet 16 by 22 inches ..... do	30	do	
			24 lights plate glass, 5½ by 4 inches	21	per light.	
			12 patent deck-lights, 3½ by 10 inches	1 00	do	
			50 glass globe lanterns, complete	1 00	each.	
			27 lights plate glass, for steamers' lanterns	50	per light.	
			9 lights red glass ..... do	75	do	
			9 lights green glass ..... do	75	do	
			12 circular lens	50	each.	

			150 bolts No. 4.....do	7	22	do	
			80 bolts No. 5.....do	6	84	do	
			50 bolts No. 6.....do	6	46	do	
			50 bolts No. 7.....do	6	08	do	
			50 bolts No. 8.....do	5	70	do	
			30 bolts hammock canvas	25	50	do	
			100 bolts bag canvas	14	25	do	
			30 bolts duck	14	25	do	
			20 bolts No. 3 cotton canvas	8	80	do	Pensacola.
			25 bolts No. 4.....do	8	36	do	
			25 bolts No. 5.....do	7	92	do	
			25 bolts No. 6.....do	7	48	do	
			25 bolts No. 7.....do	7	04	do	
			25 bolts No. 8.....do	6	60	do	
			25 bolts bag stuff	16	50	do	
			25 bolts hammock stuff	29	00	do	
July 20	June 30	Storer & Stephenson	500 pounds $\frac{3}{4}$-inch composition sheathing nails		22	per pound.	Charlestown.
			500 pounds 1-inch.....do		20	do	
			1,000 pounds $1\frac{1}{4}$-inch.....do		$18\frac{3}{4}$	do	
			2,000 pounds $1\frac{1}{2}$-inch.....do		24	do	
			50 tons Manilla hemp	244	90	per ton.	
			1,000 pounds $\frac{3}{16}$-inch round iron		5	per pound.	Brooklyn.
			2,000 pounds $\frac{5}{16}$-inch...do		3	do	
			1,000 pounds $\frac{5}{16}$-inch...do		5	do	
			2,000 pounds $\frac{3}{8}$-inch.....do		3	do	
			1,000 pounds $\frac{7}{16}$-inch ...do		5	do	
			10,000 pounds $\frac{1}{2}$-inch ...do		4	do	
			4,000 pounds $\frac{9}{16}$-inch ...do		5	do	
			10,000 pounds $\frac{5}{8}$-inch ...do		5	do	
			40,000 pounds $\frac{3}{4}$-inch ...do		$2\frac{3}{4}$	do	
			30,000 pounds $\frac{1}{8}$-inch....do		4	do	
			40,000 pounds 1-inch....do		$3\frac{1}{2}$	do	
			10,000 pounds $1\frac{1}{16}$-inch..do		4	do	
			5,000 pounds $1\frac{3}{16}$-inch...do		4	do	
			3,000 pounds $2\frac{1}{4}$-inch ...do		3	do	
			4,000 pounds $2\frac{1}{4}$-inch ...do		3	do	
			5,000 pounds $3\frac{1}{2}$-inch ...do		3	do	
			5,000 pounds $3\frac{3}{4}$-inch ...do		4	do	
			1,000 pounds $\frac{5}{16}$-inch square iron		2	do	

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 19	1854. June 30	Horton, Hall & Co—Cont'd..	6 large butchers' cleavers	$7 50 each.	Charlestown.
			24 brass cocks, ¾ to 1¼ inch diameter	50 do	
			4 mast callipers	75 do	
			6 dozen firmer chisels, ⅛ to 2 inches, handled	3 75 per dozen.	
			6 dozen socket chisels, ⅛ to 2 inches, handled	5 50 do	
			6 coopers' crows	75 each.	
			6 glaziers' diamonds	4 50 do	
			12 brass dividers	25 do	
			4 ratchet drills	5 00 do	
			24 dozen brass escutcheons	10 per dozen.	
			50 pounds emery, fine, meal and flour	10 per pound.	
			2 dozen 4-inch hand-saw files	83 per dozen.	
			3 dozen 6-inch ..... do	1 00 do	
			2 dozen 7-inch ..... do	1 00 do	
			2 dozen whip-saw files	2 50 do	
			2 dozen rat-tail files	4 00 do	
			2 dozen 8-inch flat and half-round files, fine cut	2 00 do	
			2 dozen 10-inch ..... do ..... d.	2 00 do	
			2 dozen 12-inch ..... do	2 00 do	
			2 dozen 14-inch ..... do	2 00 do	
			2 dozen 8-inch ..... do ..... bastard cut	1 63 do	
			2 dozen 10-inch ..... do ..... do	1 44 do	
			2 dozen 12-inch ..... do ..... do	1 38 do	
			2 dozen 14-inch ..... do ..... do	1 75 do	
			6 small butchers' cleavers	1 25 each.	
			6 diaphragm filters	5 00 do	
			4 dozen firmer gouges, handled, ¼ to 2 inches	4 50 per dozen.	
			4 dozen socket gouges, handled, ¼ to 2 inches	2 00 do	
			6 dozen nail gimlets	33 do	
			4 dozen spike gimlets	50 do	

1 dozen carpenters' gauges	1 50	do
1 dozen gridirons	12 00	do
1 dozen griddles	12 00	do
50 gross metallic grommets, assorted	2 75	per gross.
6 dozen brass hooks and eyes for furniture	3 00	per dozen.
6 dozen cabin-door hooks, 4 and 6-inch	75	do
3 dozen hatchets	7 50	do
4 dozen claw hammers	7 50	do
1 dozen riveting hammers	2 00	do
1 dozen wrench hammers	6 00	do
3 dozen brass hinges, 4½ by 3½ inches	12 50	do
3 dozen.....do.....4 by 3½ inches	10 25	do
3 dozen.....do.....3 by 3 inches	2 00	do
4 dozen.....do.....2½ by 2 inches	3 00	do
4 dozen.....do.....2 by 2 inches	2 25	do
4 dozen brass secretary hinges and springs	12 25	do
2 dozen iron butt-hinges, 4 by 4	1 62	do
2 dozen.....do.....3 by 3	1 12	do
10,000 tenter hooks	25	per 1,000.
6 waffle irons	75	each.
6 marking irons	25	do
6 beek irons	7 00	do
3 coopers' long jointers	1 50	do
3 coopers' short jointers	1 50	do
12 copper tea kettles	6 00	do
12 iron tea kettles	1 25	do
12 fish kettles	2 75	do
6 pitch kettles	2 00	do
6 glue kettles	33	do
6 gross blank keys	6 12	per gross.
1 dozen shoe knives	1 00	per dozen.
1 dozen drawing knives	5 50	do
1 dozen pallet knives	2 25	do
½ dozen putty knives	2 24	do
4 hollowing knives	25	each.
3 rounding knives	1 00	do
6 sail knives	25	do
6 butcher knives	50	do
6 cheese knives	50	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 19	1854. June 30	Horton, Hall & Co.—Cont'd..	2 patent leads	$2 50 each	Charlestown.
			2 patent lugs	25 00 do	
			6 iron ladles	33 do	
			12 dozen iron cupboard locks, 4-inch	3 50 per dozen.	
			12 dozen brass ....do	1 25 do	
			12 dozen brass sideboard locks, 4-inch	1 25 do	
			12 dozen brass padlocks, 3-inch	5 00 do	
			6 dozen brass drawer locks, 2¾-inch	1 50 do	
			6 dozen iron ....do	3 50 do	
			6 dozen iron chest locks, 4-inch	4 00 do	
			2 dozen globe lanterns	6 75 do	
			200 pounds Rabbitt's metal	48 per pound.	
			50 papers sewing needles	4 per paper.	
			200 seaming needles	4 each.	
			200 sail needles	1 do	
			1,000 pounds iron cut-nails, assorted	5 per pound.	
			1,000 pounds wrought nails, assorted	6 do	
			1,000 pounds copper nails, assorted	20 do	
			50,000 scupper nails	25 per 1,000.	
			50,000 clout nails	17 do	
			6 iron pots	2 00 each.	
			12 fry pans	25 do	
			12 bake pans	25 do	
			12 stew pans	1 08 do	
			6 pliers	25 do	
			6 pincers	30 do	
			1 ream sand paper	4 50 per ream.	
			1 ream emery paper	2 75 do	
			24 sail prickers	6 each.	
			12 smoothing planes	1 25 do	

8 brass.... do.....1-inch	2	00	do
6 composition stop-cocks for starting hose	15	00	do
100 pounds white chalk		1	per pound.
5 pounds red chalk		10	do
5 pounds French chalk		10	do
24 silver calls, for boatswains	2	50	each.
100 lamp chimneys		10	do
2 coopers' crows		50	do
60 yards brass jack-chain, No. 12		5	per yard.
150 halter chains, assorted		4	each.
6 glaziers' diamonds	5	00	do
6 brass dividers, for sailmakers		25	do
10 dozen brass-plate escutcheons		30	per dozen.
1 pound brass escutcheon pins	1	00	per pound.
10 pounds emery, No. 2		10	do
5 pounds flour of emery		10	do
3 dozen brass table fastings	2	50	per dozen.
1 gross 1-inch black worsted frogs		10	per gross.
1 dozen 14-inch half-round smooth files	5	00	per dozen.
1 dozen 12-inch.....do	6	00	do
1 dozen 10-inch.....do	3	00	do
1 dozen 14-inch.....fine flat files	6	00	do
1 dozen 12-inch.....do	3	00	do
1 dozen 10-inch.....do	5	00	do
1 dozen 8-inch.....do	2	00	do
1 dozen 14-inch....flat bastard files	5	00	do
1 dozen 12-inch.....do	2	00	do
1 dozen 10-inch.....do	5	00	do
1 dozen 8-inch.....do	2	00	do
1 dozen 14-inch half-round bastard files	3	00	do
1 dozen 12-inch.....do	8	00	do
1 dozen 10-inch.....do	2	00	do
1 dozen 8-inch.....do	5	00	do
1 dozen 10-inch.....round files	2	00	do
1 dozen 8-inch.....do	3	00	do
1 dozen 6-inch.....do	2	00	do
1 dozen 5-inch.....do	3	00	do
1 dozen 4-inch.....do	1	00	do
1 dozen 3-inch.....do	2	00	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 19	1854. June 30	Horton, Hall & Co—Cont'd..	24 hand saws	$0 50 each.	Charlestown.
			2 iron safes	35 00 do	
			24 mortice door-locks, mineral knobs	1 75 do	
			200 pounds cast-steel, assorted	5 per pound.	
			300 pounds small chain, assorted	15 do	
			12 tinder-boxes, steel	33 each.	
			10 gross ⅜-inch iron screws, assorted Nos	25 per gross.	
			10 gross ¾-inch....do.....do	28 do	
			10 gross 1-inch....do.....do	34 do	
			10 gross 1¼-inch....do.....do	38 do	
			10 gross 1½-inch....do.....do	56 do	
			10 gross 1¾-inch....do.....do	58 do	
			10 gross 2-inch....do.....do	65 do	
			10 gross 2¼-inch....do.....do	87 do	
			10 gross 2½-inch....do.....do	1 10 do	
			10 gross 2¾-inch....do.....do	1 25 do	
			10 gross 3-inch....do.....do	1 50 do	
			10 gross 3½-inch....do.....do	1 92 do	
			5 gross ⅜-inch brass screws.....do	71 do	
			5 gross ¾-inch....do.....do	75 do	
			5 gross 1-inch....do.....do	1 00 do	
			5 gross 1¼-inch....do.....do	1 54 do	
			5 gross 1½-inch....do.....do	1 92 do	
			5 gross 2-inch....do.....do	2 83 do	
			5 gross 2½-inch....do.....do	3 33 do	
			5 gross 3-inch....do.....do	4 52 do	
			100,000 copper tacks, ½ to ⅞-inch	35 per 1,000.	
			100,000 iron tacks, ½ to ⅞-inch	8 do	
			100,000 tinned tacks, ⅞-inch	8 do	
			1,500 pounds banca tin	30 per pound.	

4 screw-plates and taps, large	2 75	each.
4 ..... do ..... do .... small	2 75	do
4 large bench vices	6 00	do
2 small .... do	1 25	do
4 hand vices	63	do
3 coopers' vices	25	do
6 sets iron weights, 1 to 4 pounds	40	per set.
4 ... do ... do ..... 4 to 28 pounds	50	do
6 sets zinc weights, 1 ounce to 1 pound	75	do
300 pounds brass wire, assorted	15	per pound.
200 pounds iron wire .... do	10	do
150 pounds steel wire ... do	10	do
100 pounds copper wire .. do	15	do
500 pounds pig zinc	6½	do
500 pounds sheet zinc	11	do
5 dozen hickory brooms	2 00	per dozen.
5 dozen corn brooms	2 50	do
5 dozen whitewash brushes	12 00	do
5 dozen paint brushes	3 00	do
2 dozen sash-tool brushes	75	do
5 dozen camels'-hair brushes	25	do
5 dozen scrubbing brushes	1 50	do
2 dozen short-handled tar brushes	30	do
2 dozen long-handled tar brushes	40	do
1 dozen dusting brushes	1 50	do
1 dozen varnish brushes	2 00	do
3 dozen rolls worsted binding	1 25	do
20 pieces blue bunting, 40 yards long, 18 inches wide	4 00	per piece.
10 ..... do .... do ..... 40 .... do ..... 9 ..... do	1 25	do
20 pieces scarlet bunting, 40 .... do ..... 18 ..... do	6 50	do
10 ..... do .... do ..... 40 .... do ..... 9 ..... do	3 75	do
20 pieces white bunting .. 40 .... do ..... 18 ..... do	6 00	do
10 ..... do .... do ..... 40 .... do ..... 9 ..... do	3 25	do
5 pieces yellow bunting .. 40 .... do ..... 18 ..... do	1 00	do
5 pieces green bunting .. 40 .... do ..... 18 ..... do	1 00	do
500 pounds cotton batting	5	per pound.
10 earthen bowls, for water-closets	3 00	each.
10 silver calls	4 00	do
60 yards muslin, ¼ wide	8	per yard.

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 19	1854. June 30	Horton, Hall & Co.—Cont'd..	100 pounds China glue	$0 05 per pound.	Charlestown
			4 sets truss hoops	1 00 per set.	
			10,000 pounds ox hides, for rope	6½ per pound.	
			200 feet 2½-inch leather hose	60 per foot.	
			72 feet 2-inch suction hose	1 50 do	
			72 feet 3-inch.....do	50 do	
			1,800 pounds rigging leather	20 per pound.	
			1,000 pounds pump.....do	5 do	
			350 pounds bellows.....do	40 do	
			200 pounds hose .....do	10 do	
			50 pounds lamp-wick, yarn	10 do	
			50 gross lamp-wick, wove	25 per gross.	
			25 life-preservers	2 25 each.	
			50 pounds curled hair	44 per pound.	
			4 tape-lines, 100 feet each	1 50 each.	
			10 barrels lime	1 00 per barrel.	
			20 pounds black lead	8 per pound.	
			20 patent lights	83 each.	
			24 clear glass bull-eyes, 12 inches diameter	6 00 do	
			24 clear glass bull-eyes, 10 .....do	1 00 do	
			40 gallons tar oil	50 per gallon.	
			40 gallons whale oil	75 do	
			4 dozen mounted palms, roping	7 00 per dozen.	
			4 dozen.....do.....seaming	7 00 do	
			50 pounds potash	4 per pound.	
			5 oilstones	15 each.	
			5 grindstones, to weigh 500 pounds	1½ per pound.	
			3 paint stones and mullers	1 50 each.	
			500 pounds No. 1 extra soap	6½ per pound.	
			100 pounds Castile soap	6 do	

400 pounds 4-penny	do	5	do
25 pounds 1¼-inch finishing nails		20	do
25 pounds 1½-inch	do	20	do
200 pounds 20-penny copper-cut nails		40	do
200 pounds 12-penny	do	10	do
200 pounds 10-penny	do	50	do
200 pounds 8-penny	do	15	do
200 pounds 4-penny	do	50	do
50,000 ¾-inch wrought-iron clout nails		1 00	per 1,000.
75,000 1-inch	do	2	do
30,000 scupper nails		1 00	do
30,000 12-ounce iron-cut tacks		10	do
50,000 10-ounce	do	6	do
50,000 8-ounce	do	8	do
10,000 gimp tacks		10	do
20,000 ¾-inch iron-cut brads		5	do
20,000 1-inch	do	10	do
20,000 1¼-inch	do	10	do
15,000 ⅝-inch copper-cut tacks		1 00	do
25,000 ¼-inch	do	20	do
25,000 ⅜-inch	do	80	do
25,000 1-inch	do	20	do
40,000 ½-inch wrought-copper tacks		10	do
40,000 ½-inch	do	5	do
1 ream emery paper		5 00	per ream.
12 pairs pincers		25	per pair.
12 pairs pliers		25	do
1 ream sand paper		5 00	per ream.
4 pairs grooving planes		1 00	per pair.
6 short-jointer	do	1 00	each.
6 beading	do assorted	1 00	do
10 moulding	do	1 00	do
6 plough planes and (36) bits		4 00	do
12 brass curtain pins		25	do
1,000 1¼-inch iron sieve rivets		1 00	per 1,000.
20 gross 1-inch brass curtain rings		5	per gross.
1 dozen 2-foot rules, single and double jointed		5 00	per dozen.
50 pounds copper boat rivets		10	per pound.
20,000 coopers' iron rivets, assorted		40	per 1,000.

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 19	June 30	Horton, Hall & Co—Cont'd...	300 lights, 16 by 20, double thick Redford glass	$0 18 per light...	Charlestown.
			200 lights, 10 by 12, treble thick German glass	20 do	
			100 lights, 18 by 24, double thick Redford glass	40 do	
July 20	June 30	William Mason & Son	150 bolts No. 4 cotton canvas	7 22 per bolt.	
			25 bolts No. 9.....do	5 32 do	
			25 bolts No. 10.....do	4 94 do	
			150 bolts hammock stuff	25 00 do	
			100 bolts bag stuff	14 25 do	
			10 bolts No. 1 cotton canvas	8 55 do.....	Brooklyn.
			10 bolts No. 2.....do	7 98 do	
			10 bolts No. 3.....do	7 60 do	
			25 bolts No. 4.....do	7 22 do	
			100 bolts No. 5.....do	6 84 do	
			130 bolts No. 6.....do	6 46 do	
			50 bolts No. 7.....do	6 08 do	
			30 bolts No. 8.....do	5 70 do	
			20 bolts No. 9.....do	5 32 do	
			30 bolts No. 10.....do	4 94 do	
			150 bolts hammock stuff	23 00 do	
			5 bolts bag stuff	14 25 do	
			50 bolts cot stuff, to weigh 60 pounds per bolt	11 40 do	
			4 bolts No. 1 cotton canvas	12 00 do.....	Philadelphia.
			10 bolts No. 2.....do	10 00 do	
			75 bolts No. 4.....do	9 60 do	
			36 bolts No. 5.....do	6 64 do	
			42 bolts No. 6.....do	6 46 do	
			16 bolts No. 8.....do	5 70 do	
			12 bolts No. 9.....do	5 32 do	
			30 bolts No. 2.....do	7 98 do.....	Gosport.
			100 bolts No. 3.....do	7 60 do	

			150 bolts No. 4.....do	7 22	do	
			80 bolts No. 5.....do	6 84	do	
			50 bolts No. 6.....do	6 46	do	
			50 bolts No. 7.....do	6 08	do	
			50 bolts No. 8.....do	5 70	do	
			30 bolts hammock canvas	25 50	do	
			100 bolts bag canvas	14 25	do	
			30 bolts duck	14 25	do	
			20 bolts No. 3 cotton canvas	8 80	do	Pensacola.
			25 bolts No. 4.....do	8 36	do	
			25 bolts No. 5.....do	7 92	do	
			25 bolts No. 6.....do	7 48	do	
			25 bolts No. 7.....do	7 04	do	
			25 bolts No. 8.....do	6 60	do	
			25 bolts bag stuff	16 50	do	
			25 bolts hammock stuff	29 00	do	
July 20	June 30	Storer & Stephenson.....	500 pounds $\frac{3}{4}$-inch composition sheathing nails	22	per pound.	Charlestown.
			500 pounds 1-inch.....do	20	do	
			1,000 pounds $1\frac{1}{8}$-inch.....do	$18\frac{3}{4}$	do	
			2,000 pounds $1\frac{1}{4}$-inch.....do	24	do	
			50 tons Manilla hemp	244 90	per ton.	
			1,000 pounds $\frac{3}{16}$-inch round iron	5	per pound.,	Brooklyn.
			2,000 pounds $\frac{5}{16}$-inch...do	3	do	
			1,000 pounds $\frac{5}{16}$-inch...do	5	do	
			2,000 pounds $\frac{3}{8}$-inch.....do	3	do	
			1,000 pounds $\frac{7}{16}$-inch...do	5	do	
			10,000 pounds $\frac{1}{2}$-inch...do	4	do	
			4,000 pounds $\frac{9}{16}$-inch...do	5	do	
			10,000 pounds $\frac{5}{8}$-inch...do	5	do	
			40,000 pounds $\frac{3}{4}$-inch...do	$2\frac{3}{4}$	do	
			30,000 pounds $\frac{7}{8}$-inch....do	4	do	
			40,000 pounds 1-inch....do	$3\frac{1}{2}$	do	
			10,000 pounds $1\frac{1}{16}$-inch..do	4	do	
			5,000 pounds $1\frac{3}{16}$-inch...do	4	do	
			3,000 pounds $2\frac{1}{4}$-inch...do	3	do	
			4,000 pounds $2\frac{1}{8}$-inch...do	3	do	
			5,000 pounds $3\frac{1}{2}$-inch...do	3	do	
			5,000 pounds $3\frac{1}{4}$-inch...do	4	do	
			1,000 pounds $\frac{5}{16}$-inch square iron	2	do	

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 20	June 30	Storer & Stephenson—Cont'd.	1,000 pounds ⅞-inch square iron	$0 05 per pound.	Brooklyn.
			2,000 pounds 1-inch....do	4 do	
			4,000 pounds 1¼-inch...do	2 do	
			4,000 pounds 1⅜-inch...do	4 do	
			4,000 pounds 2-inch....do	4½ do	
			4,000 pounds 2¼-inch...do	3½ do	
			3,000 pounds 3-inch....do	4 do	
			3,000 pounds 3¼-inch...do	3 do	
			3,000 pounds 3¾-inch...do	3½ do	
			3,000 pounds 4-inch....do	3 do	
			3,000 pounds 4½-inch...do	5½ do	
			3,000 pounds 4⅝-inch...do	2 do	
			2,000 pounds 1¼ by ½-inch flat iron	4 do	
			2,000 pounds 1½ by ⅝-inch....do	3½ do	
			5,000 pounds 1½ by ¾-inch....do	3 do	
			2,000 pounds 2 by ½-inch....do	4 do	
			5,000 pounds 2 by ½-inch....do	3½ do	
			5,000 pounds 2½ by ⅝-inch....do	2 do	
			4,000 pounds 2½ by ¾-inch....do	4 do	
			4,000 pounds 3 by ⅝-inch....do	3½ do	
			4,000 pounds 3 by 1-inch....do	3½ do	
			2,000 pounds 3½ by 1½-inch...do	4 do	
			5,000 pounds 3½ by ⅝-inch....do	3 do	
			2,000 pounds 4 by ¾-inch....do	4 do	
			5,000 pounds 4 by ½-inch....do	3 do	
			2,000 pounds 4 by 1-inch....do	4 do	
			2,000 pounds 4½ by ⅝-inch....do	4 do	
			4,000 pounds 5 by ½-inch....do	2 do	
			4,000 pounds 5 by 1-inch....do	4 do	
			2,000 pounds 6 by ½-inch....do	2 do	
			2,000 pounds 6 by ⅝-inch....do	3 do	

2,000 pounds 6¼ by ½-inch....do	4	do
2,000 pounds 7 by ½-inch....do	3¾	do
2,000 pounds 8 by ½-inch....do	3¾	do
2,000 pounds 9 by ½-inch....do	4	do
2,000 pounds 9½ by ½-inch....do	3¾	do
2,000 pounds 10 by ½-inch....do	4	do
4,000 pounds ¾ by ½-inch Russia iron	5½	do
4,000 pounds 1 by ½-inch....do	2	do
2,000 pounds 1¼ by ½-inch....do	6	do
3,000 pounds 2 by ½-inch....do	5	do
2,000 pounds 2½ by ½-inch....do	6	do
2,000 pounds 3 by ½-inch....do	5	do
12 sheets of Russia sheet iron, 12 pounds each = 144 pounds.	10	do
12....do....do....14....do....=168..do	20	do
3,000 pounds boiler iron, ¼ inch thick	6	do
3,000....do....do	6	do
3,000....do....do	5½	do
2,000....do....do	6	do
2,000....do....do	3	do
112 pounds ½-inch hoop iron	5	do
3 carpenters' adzes, handled	10	each.
4 carpenters' hollow adzes, handled	2 00	do
3 coopers' adzes....do	2 00	do
3 carpenters' broad axes....do	2 00	do
3 coopers'....do	10	do
100 brad awls, assorted....do	3	do
100 shoe awls, assorted....do	3	do
36 wood axes, large size	1 00	do
6 carpenters' wood braces and (48) bits	5 00	do
1 iron brace and (20) bits	5 00	do
4 carpenters' bevels, steel tongue	50	do
25 Bristol bricks	8	do
50 dozen corn brooms	1 50	per dozen.
70 dozen hickory brooms	1 25	do
10 sheets brass, No. 15, say 150 pounds	30	per pound.
8....do....No. 17....136..do	50	do
6....do....No. 18....108..do	20	do
12 dozen 1¼-inch brass plate bottoms	50	per dozen.
3 bung borers	10	each.

LIST OF CONTRACTS—Continued.

Date.	Expiration	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 20	June 30	Storer & Stephenson—Cont'd.	3 tap borers	$0 10 each	Brooklyn.
			2 dozen 1¾-inch brass flush bolts	2 00 per dozen.	
			1 dozen 4-inch....do.....do	5 00 do	
			4 sets brass binnacles, braces, and hooks	5 00 per set.	
			18 pieces blue curtain binding, ¾-inch	20 per piece.	
			300 yards carpet binding	2 per yard.	
			20 pieces worsted binding, sailmakers'	10 per piece.	
			10 scale beams, 24-inch	2 00 each.	
			10....do.....22-inch	3 00 do	
			10....do.....18-inch	2 00 do	
			50 yards green baize	50 per yard.	
			200 pounds copper burrs, assorted	1 per pound.	
			1 dozen lip plugging bits, 1¼-inch	3 00 per dozen.	
			1....do.....do.....1-inch	10 00 do	
			2 dozen composition oil-can cocks	30 00 do	
			50 dozen candlestick slides	50 do	
			24 sets (4 in set) 1½-inch brass fixed castors	50 per set.	
			12 dozen spools best blue sewing cotton (30)	50 per dozen.	
			20 dozen spools best white sewing cotton, numbers 18 to 30	50 do	
			12 yards 52-inch green broadcloth	2 00 per yard.	
			50 yards Brussels carpet	1 30 do	
			50 yards 30-inch haircloth	40 do	
			15 pounds cane-seating	40 per pound.	
			5 pounds cane-binding	60 do	
			24 carpenters' compasses, cast-steel	25 each.	
			3 coopers'....do	25 do	
			50 firmer chisels, assorted, ½ to 2-inch	40 do	
			36 socket.....do.....½ to 2½-inch	50 do	
			8 brass bibb-cocks, ¾-inch	3 00 do	
			8 brass....do.....¾-inch	1 00 do	

6 brass.... do			
6 composition stop-cocks for starting hose	15	00	do
100 pounds white chalk		1	per pound.
5 pounds red chalk		10	do
5 pounds French chalk		10	do
24 silver calls, for boatswains	2	50	each.
100 lamp chimneys		10	do
2 coopers' crows		50	do
60 yards brass jack-chain, No. 12		5	per yard.
150 halter chains, assorted		4	each.
6 glaziers' diamonds	5	00	do
6 brass dividers, for sailmakers		25	do
10 dozen brass-plate escutcheons		30	per dozen.
1 pound brass escutcheon pins	1	00	per pound.
10 pounds emery, No. 2		10	do
5 pounds flour of emery		10	do
3 dozen brass table fastings	2	50	per dozen.
1 gross 1-inch black worsted frogs		10	per gross.
1 dozen 14-inch half-round smooth files	5	00	per dozen.
1 dozen 12-inch....do	6	00	do
1 dozen 10-inch....do	3	00	do
1 dozen 14-inch....fine flat files	6	00	do
1 dozen 12-inch....do	3	00	do
1 dozen 10-inch....do	5	00	do
1 dozen 8-inch....do	2	00	do
1 dozen 14-inch....flat bastard files	5	00	do
1 dozen 12-inch....do	2	00	do
1 dozen 10-inch....do	5	00	do
1 dozen 8-inch....do	2	00	do
1 dozen 14-inch half-round bastard files	3	00	do
1 dozen 12-inch....do	8	00	do
1 dozen 10-inch....do	2	00	do
1 dozen 8-inch....do	5	00	do
1 dozen 10-inch....round files	2	00	do
1 dozen 8-inch....do	3	00	do
1 dozen 6-inch....do	2	00	do
1 dozen 5-inch....do	3	00	do
1 dozen 4-inch....do	1	00	do
1 dozen 3-inch....do	2	00	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 20	1854. June 30	Storer & Stephenson—Cont'd.	1 dozen 8-inch square files	$1 00 per dozen.	Brooklyn.
			1 dozen 6-inch ..... do	3 00 do	
			2 dozen 8-inch taper-saw files	1 00 do	
			2 dozen 7-inch ..... do	3 00 do	
			2 dozen 6-inch ..... do	1 00 do	
			2 dozen 5-inch ..... do	2 00 do	
			2 dozen 4-inch ..... do	1 00 do	
			1 dozen 3-inch ..... do	2 00 do	
			1 dozen 14-inch wood rasps	6 00 do	
			1 dozen whip-saw files	1 00 do	
			20 yards fearnaught	40 per yard.	
			6 coopers' frows	50 each.	
			200 yards broad gimp	10 per yard.	
			100 yards black silk gimp	10 do	
			100 pounds coopers' best quality glue	25 per pound.	
			2 dozen nail gimlets, assorted	50 per dozen.	
			1 dozen spike ..... do	1 00 do	
			3 dozen firmer gouges, assorted, ¼ to 2-inch, handled	8 00 do	
			2 dozen socket ..... do ..... ¼ to 2½-inch .. do	15 00 do	
			1 dozen carpenters' gauges	2 00 do	
			12 dozen pairs 2-inch narrow brass butt hinges	2 00 do	
			12 dozen pairs 3½-inch ..... do	5 00 do	
			8 dozen pairs 4 by 4-inch brass butt hinges, slip pins	10 00 do	
			4 dozen pairs 1½-inch narrow brass butt hinges, slip pins	2 00 do	
			4 dozen pairs 1½-inch ..... do ..... do	1 00 do	
			12 dozen pairs 3½-inch narrow iron butt hinges	1 00 do	
			4 dozen pairs 2-inch ..... do	50 do	
			24 dozen pairs brass secretary hinges, with catches complete	2 50 do	
			½ dozen brass lamp hooks	2 00 do	
			3 dozen 3-inch iron drawer handles	3 00 do	

12 dozen 5-inch brass cabin-door hooks	2 00	do
200 pounds pure curled hair	35	per pound.
3 screw-wrench hammers, 12-inch	50	each.
3 do 16-inch	4 00	do
3 dozen claw hammers, handled	4 00	per dozen.
1 dozen rivet do	1 00	do
1 dozen coopers' do	8 00	do
1 dozen coopering hammers, handled	5 00	per dozen.
6 dozen cast-steel hatchets, two sizes, handled	9 00	do
500 feet leather leading hose, complete in 50-feet lengths	1 00	per foot.
1 dozen iron chest-handles, 3 inches	3 00	per dozen.
90 feet leather suction hose, complete in 6-feet lengths	5 00	per foot.
18 dozen 3-inch iron padlocks	4 00	per dozen.
6 dozen 3-inch brass do	15 00	do
6 dozen composition door-lock keys	5 00	do
12 dozen iron drawer door-lock keys	1 00	do
6 dozen iron cupboard door-lock keys	5 00	do
6 dozen iron rim door-lock keys	1 00	do
12 dozen 2-inch mahogany knobs	25	do
12 dozen 2-inch black walnut knobs	25	do
3 dozen shoe knives	2 00	do
1 dozen drawing knives	2 00	do
1 dozen putty do	4 00	do
1 dozen butcher do	5 00	do
1 dozen cheese do	3 00	do
2 dozen sail do	3 00	do
1 dozen copper glue kettles	30 00	do
3 pitch kettles	1 00	each.
2 turning lathes, with tools, &c., complete	75 00	do
3 hollowing knives	1 00	do
10 dozen ¾-inch brass shutter-knobs	20	per dozen.
5 dozen ¼-inch do do	50	do
3 dozen 4-inch mortice locks	6 00	do
10 dozen 4-inch iron cupboard-locks	3 00	do
12 dozen 3½-inch iron drawer-locks	4 00	do
17 dozen 3-inch do do	1 00	do
8 dozen 2½-inch do do	5 00	do
4 dozen 1½-inch do do	3 00	do
4 dozen 3½-inch iron chest-locks	3 00	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 20	June 30	Storer & Stephenson—Cont'd...	1 dozen 3-inch brass book-case locks	$5 00 per dozen.	Brooklyn.
			1 dozen 10-inch stock-locks	9 00 do	
			2 dozen 7-inch iron dead-locks	1 00 do	
			1 dozen 6-inch iron rim locks	6 00 do	
			1 dozen chalk-lines	50 do	
			2 dozen pitch ladles, iron	10 00 do	
			50 life-preservers	2 00 each.	
			3 tape-lines of 100 feet	3 00 do	
			3 tape-lines of 50 feet	1 00 do	
			6 solar lamps, with reflectors and fixtures	2 00 do	
			500 pounds 8-inch Bruden's iron-pressed spikes	6 per pound.	
			500 pounds 7-inch ... do ... do ... do	8 do	
			500 pounds 6-inch ... do ... do ... do	7 do	
			200 pounds 5-inch ... do ... do ... do	10 do	
			100 pounds 20-penny wrought-iron boat nails	9 do	
			200 pounds 12-penny ... do ... do	9 do	
			200 pounds 10-penny ... do ... do	12 do	
			200 pounds 8-penny ... do ... do	5 do	
			300 pounds 6-penny ... do ... do	15 do	
			200 pounds 4-penny ... do ... do	12 do	
			400 pounds 10-penny iron-wrought nails	2 do	
			400 pounds 8-penny ... do ... do	3 do	
			400 pounds 6-penny ... do ... do	2 do	
			500 pounds 40-penny iron-cut nails	5 do	
			400 pounds 30-penny ... do	5 do	
			500 pounds 20-penny ... do	4 do	
			2,000 pounds 12-penny ... do	3 do	
			2,000 pounds 10-penny ... do	5 do	
			2,000 pounds 8-penny ... do	3½ do	
			2,000 pounds 6-penny ... do	5 do	

400 pounds 4-penny	do	5	do
25 pounds 1½-inch finishing nails		20	do
25 pounds 1¼-inch	do	20	do
200 pounds 20-penny copper-cut nails		40	do
200 pounds 12-penny	do	10	do
200 pounds 10-penny	do	50	do
200 pounds 8-penny	do	15	do
200 pounds 4-penny	do	50	do
50,000 ¼-inch wrought-iron clout nails		1 00	per 1,000.
75,000 1-inch	do	2	do
30,000 scupper nails		1 00	do
30,000 12-ounce iron-cut tacks		10	do
50,000 10-ounce	do	6	do
50,000 8-ounce	do	8	do
10,000 gimp tacks		10	do
20,000 ½-inch iron-cut brads		5	do
20,000 1-inch	do	10	do
20,000 1¼-inch	do	10	do
15,000 ⅝-inch copper-cut tacks		1 00	do
25,000 ½-inch	do	20	do
25,000 ⅜-inch	do	80	do
25,000 1-inch	do	20	do
40,000 ¼-inch wrought-copper tacks		10	do
40,000 ⅜-inch	do	5	do
1 ream emery paper		5 00	per ream.
12 pairs pincers		25	per pair.
12 pairs pliers		25	do
1 ream sand paper		5 00	per ream.
4 pairs grooving planes		1 00	per pair.
6 short-jointer	do	1 00	each.
6 beading	do assorted	1 00	do
10 moulding	do	1 00	do
6 plough planes and (36) bits		4 00	do
12 brass curtain pins		25	do
1,000 1¼-inch iron sieve rivets		1 00	per 1,000.
20 gross 1-inch brass curtain rings		5	per gross.
1 dozen 2-foot rules, single and double jointed		5 00	per dozen.
50 pounds copper boat rivets		10	per pound.
20,000 coopers' iron rivets, assorted		40	per 1,000.

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 20	1854. June 30	Storer & Stephenson—Cont'd.	6 gauging rods	$1 00 each	Brooklyn.
			100 pounds copper-pressed rivets, for oil tanks	70 per pound.	
			5 gross 3-inch brass screws, assorted numbers	2 00 per gross.	
			10 gross 2-inch ...do	10 do	
			10 gross 1½-inch ...do	10 do	
			10 gross 1¼-inch ...do	10 do	
			10 gross 1-inch ...do	50 do	
			10 gross ¾-inch ...do	10 do	
			10 gross ⅝-inch ...do	10 do	
			5 gross ½-inch ...do	50 do	
			10 gross 3-inch iron screws, assorted numbers	10 do	
			20 gross 2-inch ...do	5 do	
			20 gross 1½-inch ...do	2 do	
			30 gross 1¼-inch ...do	1 do	
			30 gross 1-inch ...do	1 do	
			20 gross ¾-inch ...do	2 do	
			15 gross ⅝-inch ...do	2 do	
			10 gross ½-inch ...do	30 do	
			60 dozen lamp screws, double tubes	75 per dozen.	
			10 dozen filling screws, for lamps	50 do	
			2 dozen cast-steel shovels	10 00 do	
			1 ...do ...do ...for charcoal, back strapped	15 00 do	
			1 ...do ...spades	10 00 do	
			3 pair steelyards, to weigh 250 pounds	2 00 each.	
			3 patent balances, to weigh 500 pounds	5 00 do	
			12 hand saws	1 00 do	
			3 whip saws	1 00 do	
			12 wood saws and frames	50 do	
			3 compass saws	20 do	
			12 tenon saws	1 00 do	

3 jack screws, Ballard's patent	20 00	do
12 spoke shaves	50	do
6 Turkey oilstones—say 24 pounds	75	per pound.
6 grindstones—say 1,200 pounds	2	do
6 trying squares, steel blades	25	each.
6 iron squares, cast steel	25	do
3 can shaves	1 00	do
1 inch shave	1 00	do
3 bread sieves	50	do
12 bread shovels	50	do
6 butchers' steels	50	do
12 lamp scissors	25	do
4 brass squares, for sailmakers	50	do
1,000 pounds best cast steel, assorted	28	per pound.
500 pounds best German steel..do	12	do
400 pounds best blister steel, (L.)	10	do
10 yards satinet, ¾ yard wide	2 50	per yard.
6 saw sets	25	each.
50 pounds braziers' solder	50	per pound.
25 pounds soft solder	4	do
3 pieces white linen tape, 12 yards each	20	per piece.
55 pounds black linen thread, Nos. 30 to 50	20	per pound.
55 pounds white.....do.....do	1 00	do
50 pounds shoe thread, best quality	80	do
20 sets black walnut chair trimmings	50	per set.
3 bench vices, best quality, 50 to 70 pounds each—say 200 pounds	20	per pound.
3 hand vices	50	each.
3 coopers' vices	50	do
100 pounds ¼-inch copper wire	10	per pound.
10 pounds copper bell wire	50	do
100 pounds $\frac{3}{16}$-inch brass wire	20	do
50 pounds $\frac{1}{8}$ inch.....do	40	do
40 pounds No. 10.....do	40	do
20 pounds iron wire, No. 6	10	do
20 pounds....do....No. 12	10	do
20 pounds....do....No. 14	10	do
40 pounds....do....No. 8	10	do
10 pounds....do....No. 10	10	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 20	June 30	Storer & Stephenson—Cont'd.	6 gauging rods	$1 00 each	Brooklyn.
			100 pounds copper-pressed rivets, for oil tanks	70 per pound.	
			5 gross 3-inch brass screws, assorted numbers	2 00 per gross.	
			10 gross 2-inch do	10 do	
			10 gross 1½-inch do	10 do	
			10 gross 1¼-inch do	10 do	
			10 gross 1-inch do	50 do	
			10 gross ¾-inch do	10 do	
			10 gross ⅝-inch do	10 do	
			5 gross ½-inch do	50 do	
			10 gross 3-inch iron screws, assorted numbers	10 do	
			20 gross 2-inch do	5 do	
			20 gross 1½-inch do	2 do	
			30 gross 1¼-inch do	1 do	
			30 gross 1-inch do	1 do	
			20 gross ¾-inch do	2 do	
			15 gross ⅝-inch do	2 do	
			10 gross ½-inch do	30 do	
			60 dozen lamp screws, double tubes	75 per dozen.	
			10 dozen filling screws, for lamps	50 do	
			2 dozen cast-steel shovels	10 00 do	
			1 do do for charcoal, back strapped	15 00 do	
			1 do spades	10 00 do	
			3 pair steelyards, to weigh 250 pounds	2 00 each.	
			3 patent balances, to weigh 500 pounds	5 00 do	
			12 hand saws	1 00 do	
			3 whip saws	1 00 do	
			12 wood saws and frames	50 do	
			3 compass saws	90 do	
			12 tenon saws	1 00 do	

3 jack screws, Ballard's patent	20	00	do
12 spoke shaves		50	do
6 Turkey oilstones—say 24 pounds		75	per pound.
6 grindstones—say 1,200 pounds		2	do
6 trying squares, steel blades		25	each.
6 iron squares, cast steel		25	do
3 can shaves	1	00	do
1 inch shave	1	00	do
3 bread sieves		50	do
12 bread shovels		50	do
6 butchers' steels		50	do
12 lamp scissors		25	do
4 brass squares, for sailmakers		50	do
1,000 pounds best cast steel, assorted		28	per pound.
500 pounds best German steel..do		12	do
400 pounds best blister steel, (L.)		10	do
10 yards satinet, ¾ yard wide	2	50	per yard.
6 saw sets		25	each.
50 pounds braziers' solder		50	per pound.
25 pounds soft solder		4	do
3 pieces white linen tape, 12 yards each		20	per piece.
55 pounds black linen thread, Nos. 30 to 50		20	per pound.
55 pounds white.....do.....do	1	00	do
50 pounds shoe thread, best quality		80	do
20 sets black walnut chair trimmings		50	per set.
3 bench vices, best quality, 50 to 70 pounds each—say 200 pounds		20	per pound.
3 hand vices		50	each.
3 coopers' vices		50	do
100 pounds ¼-inch copper wire		10	per pound.
10 pounds copper bell wire		50	do
100 pounds $\frac{1}{16}$-inch brass wire		20	do
50 pounds $\frac{1}{16}$ inch.....do		40	do
40 pounds No. 10.....do		40	do
20 pounds iron wire, No. 6		10	do
20 pounds....do....No. 12		10	do
20 pounds....do....No. 14		10	do
40 pounds....do....No. 8		10	do
10 pounds....do....No. 10		10	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 20	1854. June 30	Storer & Stephenson—Cont'd.	100 dozen woven lamp wicks	$0 10 per dozen..	Brooklyn.
			60 pounds lamp-wick yarn	20 per pound.	
			12 sets lead weights, 1 ounce to 1 pound	50 per set.	
			12 sets iron weights, 1 pound to 4 pounds	50 do	
			12 sets....do.....4 pounds to 28 pounds	3 50 do	
			5 pounds worsted yarn	6 00 per pound.	
			20 gridirons, two sizes	50 each.	
			20 griddles....do	50 do	
			50 iron tea kettles, assorted, 6 to 12 quarts	2 50 do	
			15 fish kettles, with strainers, complete	5 00 do	
			30 iron ladles, for cooks, two sizes	2 do	
			50 frying pans, 3 sizes	40 do	
			100 stew pans, assorted, 2 to 12 quarts	60 do	
			20 iron pots, or camp kettles	5 50 do	
			6 sets shovels, tongs, and pokers	2 per set.	
			30 tormentors, large sizes	10 each.	
			25 waffle irons	20 do	
			500 yards white muslin, 1 yard wide	8 per yard.	
			550 yards blue damask moreen	20 do	
			300 yards black muslin	10 do	
			30 yards white curtain muslin	20 do	
			8 sheets of 6-pound milled lead—say 4,888 pounds	6 per pound.	
			6 sheets of 8-pound milled lead—say 5,400 pounds	7 do	
			3 sheets of 4-pound milled lead—say 1,600 pounds	8 do	
			8 lengths 2½-inch lead pipe, 13 $\frac{0}{16}$ pounds per foot—say 1,100 pounds	6 do	
			12 lengths 2-inch lead pipe, 6 $\frac{1}{8}$ pounds per foot—say 810 pounds	7 do	
			20 lengths 1-inch lead pipe, 3 $\frac{1}{8}$ pounds per foot—say 750 pounds	6 do	

5 lengths ½-inch lead pipe, 1$\frac{5}{8}$ pounds per foot—say 75 lbs..	8	do
5,000 pounds New Orleans pig lead	6	do
15 boxes I. C. tin	2 00	per box.
5 boxes I. C. tin, 14 by 20	12 00	do
10 boxes I. X. tin	10 00	do
5 boxes S. D. X. tin	20 00	do
5 boxes D. X. X. tin	15 00	do
600 pounds India tin	25	per pound.
6,000 pounds 1¼-inch sheathing nails	30	do
1,500 pounds ¾-inch sheathing nails	2	do
50 pounds 1¾-inch composition boat spikes	10	do
50 pounds 2-inch ..... do ..... do	10	do
50 pounds 2¼-inch .... do ..... do	20	do
50 pounds 2½-inch .... do ..... do	6	do
50 pounds 3-inch ..... do ..... do	4	do
500 pounds 5-inch .... do ..... spikes	20	do
500 pounds 5½-inch .... do ..... do	5	do
400 pounds 2-inch ..... do .... stem lead nails	5	do
20 pounds sal ammoniac	10	do
20 pounds refined borax	30	do
5,000 yards 30-inch twilled bagging	19	per yard.
4,000 yards flax bagging for coal bags	5	do
600 pounds beeswax	25	per pound.
50 pieces 18-inch scarlet bunting	10 00	per piece.
40 pieces 12-inch ..... do	1 00	do
40 pieces 9-inch ..... do	3 00	do
20 pieces 4½-inch ..... do	3 00	do
50 pieces 18-inch white bunting	10 00	do
40 pieces 12-inch ..... do	1 00	do
40 pieces 9-inch ..... do	3 00	do
20 pieces 4½-inch ..... do	3 00	do
50 pieces 18-inch blue bunting	1 00	do
50 pieces 12-inch. .... do	5 00	do
50 pieces 9-inch .... . .do	5 00	do
24 china bowls for water closets, with fixtures complete	12 00	each.
36 pairs hose couplings	2 50	per pair.
12 caps for hose couplings	1 00	each.
200 pounds best quality batt cotton	10	per pound.
200 fathoms ⅞-inch short-link proof chain—say 2,400 pounds.	8	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 20	1854. June 30	Storer & Stephenson.—Cont'd.	150 fathoms $\frac{5}{16}$-inch short-link proof chain—say 1,550 pounds.	$0 9 per pound.	Brooklyn.
			150 fathoms $\frac{1}{16}$-inch short-link proof chain—say 1,500 pounds.	8 do	
			150 fathoms $\frac{3}{16}$-inch short-link proof chain—say 1,450 pounds.	9 do	
			5 bolts Russia canvas	9 00 per bolt.	
			40 bolts light Raven's duck	8 00 do	
			1,500 fish hooks, assorted, large size	9 each.	
			120 mast hoops, assorted—say 1,200 inches	9 per inch.	
			500 sheets "large middle" horn	10 per sheet.	
			3 patent logs, complete	25 00 each.	
			5 patent deep-sea leads, complete	1 00 do	
			25 barrels best unslacked lime	1 50 per barrel.	
			15 1¾-inch deep-sea lines, 300 fathoms each	9 00 each.	
			15 1½-inch deep-sea lines, 200 fathoms each	9 00 do	
			20 ¾-inch deep-sea lines, 120 fathoms each	1 00 do	
			75 hand lead lines, 50 fathoms each	20 do	
			50 log lines, 80 fathoms each	9 00 do	
			10 coils signal halyards, assorted—say 500 pounds	5 per pound.	
			2,000 pounds houseline	4 do	
			2,000 pounds hambroline	5 do	
			2,000 pounds marline	20 do	
			500 pounds white marline	20 do	
			3,000 pounds roundline	20 do	
			400 fishing lines, assorted, 3 sizes, 40 fathoms each	5 each.	
			2,000 sail-seaming needles	9 00 per 100.	
			500 roping needles, assorted, 4 to 8 thread	4 00 do	
			300 gallons tar oil	40 per gallon.	
			20 gallons Florence oil	1 00 do	
			10 gallons neatsfoot oil	5 00 do	
			100 gallons fish oil	75 do	
			100 seaming palms, mounted	50 each.	

50 roping .... do.... .do	1 00	do
40 wood hand-pumps, complete	50	each.
3 sets paint stones and mullers	1 00	per set.
15,000 yellow-pine deck plugs, assorted, ¾ to 1¼ inch	2 00	per 1,000.
5,000 white-pine deck plugs, 1 inch	4 00	do
100 barrels best quality pitch	2 50	per barrel.
50 barrels best quality rosin	2 00	do
200 pounds India rubber	50	per pound.
30 dozen best ship-scrapers, iron handles, steel blades	4 00	per dozen.
100 pounds best brown soap	10	per pound.
3 flax seines, complete	75 00	each.
200 pounds thrums	40	per pound.
100 barrels best white turpentine	4 00	per barrel.
50 barrels best tar	4 00	do
400 pounds cotton waste	10	per pound.
7,000 pounds beef tallow, best quality	10	do
40,000 pounds pure dry white lead	6	do
2,000 pounds lampblack	3	do
1,000 pounds red lead	10	do
500 pounds French yellow ochre	5	do
500 pounds litharge	6	do
100 pounds chrome green	30	do
10 pounds chrome yellow	50	do
15 pounds Chinese vermilion	1 00	do
10 pounds Prussian blue	1 00	do
1,500 pounds Spanish brown	2	do
4,000 pounds whiting	1	do
6 pounds India red	20	do
5 pounds rotten stone, in lumps	10	do
25 pounds pumice stone, in lumps	4	do
100 pounds raw Turkey umber, ground dry	5	do
500 pounds patent driers	10	do
100 pounds pure white lead, in oil	10	do
4,000 gallons pure linseed oil	70	per gallon.
500 gallons spirits turpentine	60	do
75 gallons bright varnish	20	do
25 gallons brown Japan	1 00	do
25 gallons copal varnish	1 50	do
25 gallons harness varnish	1 50	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 20	1854. June 30	Storer & Stephenson—Cont'd.	6 gross 3-inch No. 20 iron screws	$2 00 per gross	Philadelphia.
			4,000 pounds 1¼-inch composition sheathing nails	22 per pound.	
			6 gross ½-inch Nos. 2 and 4 brass screws	1 00 per gross.	
			6 gross ⅝-inch Nos. 6 and 9 ...do	1 00 do	
			6 gross ¾-inch Nos. 6 and 9 ...do	1 00 do	
			20 gross 1-inch Nos. 8, 10, and 12 ...do	1 00 do	
			20 gross 1¼-inch Nos. 10, 12, and 15 ...do	1 50 do	
			20 gross 1½-inch Nos. 10, 12, and 15 ...do	1 50 do	
			20 gross 1¾ inch Nos. 12, 15, and 20 ...do	3 00 do	
			15 gross 2-inch Nos. 12, 15, and 20 ...do	4 00 do	
			15 gross 2½-inch Nos. 16 and 20 ...do	5 00 do	
			18 gross 3-inch No. 20 ...do	8 00 do	
			8 gross 4-inch No. 20 ...do	9 00 do	
			75 pounds 2-inch sprigs	10 per pound.	
			75 pounds 1¾-inch ..do	10 do	
			100 pounds 1½-inch ..do	12 do	
			100 pounds 1¼-inch ..do	10 do	
			100 pounds 1-inch ..do	12 do	
			75 pounds ¾-inch ..do	12 do	
			25 pounds copper wire, No. 18	40 do	
			50 barrels pitch	2 50 per barrel.	
			6 barrels tar	5 00 do	
			2 barrels common fish oil	20 00 do	
			12 pounds thrums	1 00 per pound.	
			3 barrels rosin	4 00 per barrel.	
			6 barrels tallow	27 00 do	
			12 barrels lime	2 00 do	
			141 bolts No. 1 flax canvas	12 00 per bolt.	
			194 bolts No. 2 ....do	12 00 do	
			32 bolts No. 3 ....do	12 00 do	

6 dozen 4 by 3½ inch brass mortice locks, wrought brass case, keys, and mineral knobs	15 00	do
4 dozen 6-inch upright rim knob locks, with brass springs, tumblers, and bolts, complete	15 00	do
4 dozen 6-inch dead locks, brass keys, with brass springs, tumblers, and bolts, complete	20 00	do
6 dozen 4-inch chest locks, brass keys, with brass springs and bolts	5 00	do
80 pairs 2-inch heavy brass ship hinges, with brass pins and screws	25	per pair.
80 pairs 2½-inch heavy brass ship hinges, with brass pins and screws	15	do
80 pairs 3-inch heavy brass ship hinges, with brass pins and screws	35	do
60 pairs 4-inch heavy brass ship hinges, with brass pins, screws, and slip-pins	60	do
100 brass bulkhead bolts, with brass plates and screws 1¼ inch long, according to pattern	55 00	per 100.
1 gross brass lamp hooks	18 00	per gross.
1 gross brass pantry hooks	10 00	do
1 gross brass padlocks, springs and tumblers, best	40 00	do
1,000 pounds 20-penny Cumberland cut nails	4	per pound.
1,000 pounds 12-penny.....do.....do	5	do
1,500 pounds 10-penny.....do.....do	4	do
2,000 pounds 8-penny.....do.....do	4	do
1,500 pounds 6-penny.....do.....do	5	do
1,000 pounds 4-penny.....do.....do	5	do
500 pounds 20-penny American wrought-iron nails	8	do
500 pounds 12-penny.....do.....do	9	do
500 pounds 10-penny.....do.....do	10	do
600 pounds 8-penny.....do.....do	9	do
800 pounds 6-penny.....do.....do	9	do
8 gross ¾-inch Nos. 10 and 12 iron screws	20	per gross.
10 gross 1-inch....do.....do.....do	30	do
10 gross 1¼-inch....do.....do.....do	40	do
10 gross 1½-inch Nos. 12 and 16.....do	50	do
10 gross 1¾-inch....do.....do.....do	60	do
10 gross 2-inch....do.....do.....do	1 00	do
8 gross 2½-inch Nos. 16 and 20.....do	1 00	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 20	1854. June 30	Storer & Stephenson—Cont'd.	50 ladle-plates, to be made of the best hammered iron, to be not less than ¼ inch thick, or to exceed $\frac{5}{16}$ inch, cut 11 inches in diameter, (drawing to be furnished,) each.....	$2 00 each.....	Washington.
			100 pounds 2-inch square cast steel, best quality.....	17 per pound.	
			200 pounds 1½-inch.....do.....do.....	16 do	
			150 pounds 1¼-inch square cast steel, best quality.....	15 do	
			150 pounds 1⅛ inch...do.....do.....do.....	15 do	
			150 pounds 1-inch...do.....do.....do.....	20 do	
			150 pounds ⅞-inch...do.....do.....do.....	18 do	
			150 pounds ¾-inch...do.....do.....do.....	16 do	
			150 pounds ⅝-inch...do.....do.....do.....	18 do	
			100 pounds ½-inch...do.....do.....do.....	20 do	
			50 pounds ⅜-inch...do.....do.....do.....	20 do	
			50 pounds ¼-inch...do.....do.....do.....	20 do	
			6 dozen 16-inch flat rough files.....	6 00 per dozen.	
			6 dozen 14-inch.....do.....	8 00 do	
			6 dozen 12-inch.....do.....	1 00 do	
			3 dozen 10-inch.....do.....	5 00 do	
			20 dozen 14-inch flat bastard files.....	1 00 do	
			10 dozen 12-inch.....do.....	3 50 do	
			10 dozen 10-inch.....do.....	1 00 do	
			15 dozen 8-inch.....do.....	2 00 do	
			6 dozen 6-inch.....do.....	2 50 do	
			4 dozen 18-inch hand bastard files.....	7 00 do	
			8 dozen 16-inch.....do.....	6 00 do	
			25 dozen 14-inch.....do.....	8 00 do	
			15 dozen 12-inch.....do.....	2 00 do	
			10 dozen 10-inch.....do.....	4 00 do	
			5 dozen 8-inch.....do.....	4 00 do	
			10 dozen 14-inch hand smooth files.....	10 00 do	

		288 bolts No. 4....do	9	80	do
		55 bolts No. 5....do	10	00	do
		79 bolts No. 6....do	10	00	do
		57 bolts No. 7....do	8	00	do
		22 bolts No. 8....do	8	00	do
		190 pounds cotton twine		25	per pound.
		275 pounds beeswax		30	do
		100 pounds tallow		15	do
		30 sides bellows leather	4	00	per side.
		500 pounds 30-penny cut nails		4	per pound. Washington.
		500 pounds 20-penny....do		4	do
		2,500 pounds 12-penny..do		4	do
		3,000 pounds 10-penny..do		3½	do
		1,000 pounds 8-penny..do		4	do
		500 pounds 12-penny wrought nails		8	do
		300 pounds 10-penny....do		10	do
		300 pounds 8-penny....do		10	do
		500 pounds 6-penny....do		8	do
		10 gross 1-inch iron screws, No. 12		50	per gross.
		10 gross 1½-inch...do....No. 12		50	do
		10 gross 2-inch....do....No. 14		75	do
		10 gross 2½-inch...do....No. 16	1	00	do
		5 gross 1-inch brass screws, No. 12		80	do
		10 gross 1½-inch...do....No. 16	1	00	do
		5 gross 2-inch....do....No. 16	3	00	do
		5,000 ⅜-inch copper tacks	1	00	per 1,000.
		5,000 ½-inch....do	1	00	do
		25,000 ⅜-inch iron tacks		10	do
		15,000 ½-inch....do		10	do
		2 dozen brass cupboard-locks, 2½ by 2½ inches long, keys to differ	5	00	per dozen.
		2 dozen brass draw-locks, 2½ by 2½ inches long, keys to differ.	3	00	do
		2 dozen iron till-locks....2½ by 2½....do....do	1	00	do
		2 dozen iron pantry-locks 5-inch, with brass bolts, keys to differ	5	00	do
		½ dozen brass pad-locks, assorted, keys to differ	20	00	do
		3 dozen iron....do....do	5	00	do
		2 dozen 4-inch brass hooks and eyes, flat on one side	1	00	do
		2 dozen 3-inch....do....do....do	2	00	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 20	1854. June 30	Storer & Stephenson—Cont'd.	200 pounds best quality sperm candles	$0 40 per pound.	Washington.
			5,000 pounds ⅞-inch composition sheathing nails	28 do	Gosport.
			2,000 pounds 1-inch composition sheathing nails	28 do	
			6,000 pounds 1⅛-inch composition sheathing nails	18 do	
			2,000 pounds 1¼-inch composition sheathing nails	30 do	
			150 bolts No. 2 flax canvas	13 00 per bolt.	
			100 bolts No. 3....do	12 50 do	
			300 bolts No. 4....do	12 00 do	
			100 bolts No. 5....do	12 00 do	
			200 bolts No. 6....do	10 75 do	
			200 bolts No. 7....do	9 75 do	
			50 bolts No. 8....do	11 00 do	
			500 pounds flax sewing twine	50 per pound.	
			200 pounds cotton sewing twine	50 do	
			50 pounds cotton whipping twine	20 do	
			1,000 pounds flax seine twine	15 do	
			20,000 pounds pure dry white lead	7¾ do	
			2,000 pounds pure dry red lead	10 do	
			500 pounds pure dry litharge	6 do	
			15 pounds pure Chinese vermilion	1 00 do	
			200 pounds pure dry chrome green	20 do	
			2,000 pounds pure lampblack	1 do	
			6,000 pounds pure dry Spanish whiting	1 do	
			500 pounds pure yellow ochre, dry	4 do	
			1,000 pounds pure red ochre, dry	1 do	
			100 pounds pure gum shellac	20 do	
			150 pounds pure Turkey umber	2 do	
			50 pounds pure terra di sienna	8 do	
			150 pounds pure gum copal, South American	10 do	
			100 pounds pure gum copal, East Indian	70 do	

8 dozen 12-inch.....do.....	4 00	do
6 dozen 10-inch.....do.....	4 00	do
6 dozen 8-inch.....do.....	4 00	do
4 dozen 6-inch.....do.....	5 00	do
5 dozen 14-inch half-round smooth files.....	3 00	do
5 dozen 12-inch.....do.....do.....	6 00	do
5 dozen 10-inch.....do.....do.....	2 00	do
5 dozen 8-inch.....do.....do.....	4 00	do
3 dozen 6-inch.....do.....do.....	4 00	do
6 dozen 14-inch half-round bastard files.....	6 00	do
6 dozen 12-inch.....do.....do.....	4 00	do
6 dozen 10-inch.....do.....do.....	3 00	do
10 dozen 8-inch.....do.....do.....	2 50	do
5 dozen 6-inch.....do.....do.....	3 00	do
4 dozen 12-inch round bastard files.....	5 00	do
4 dozen 10-inch.....do.....	2 50	do
4 dozen 8-inch.....do.....	3 00	do
4 dozen 6-inch.....do.....	2 00	do
3 dozen 12-inch square bastard files.....	5 00	do
3 dozen 10-inch.....do.....	3 00	do
2 dozen 8-inch.....do.....	3 00	do
20 dozen 4-inch hand-saw files.....	75	do
10 dozen 3½-inch.....do.....	50	do
5,000 iron (tinned) rivets, assorted sizes.....	1 00	per 1,000.
50 pounds sheet brass, No. 18, wire gauge.....	30	per pound.
50 pounds sheet brass, No. 23, wire gauge.....	30	do
25 pounds sheet brass, No. 25, wire gauge.....	40	do
100 pounds brass wire, ½ inch in diameter.....	35	do
100 pounds brass wire, No. 1, wire gauge.....	35	do
50 pounds brass wire, No. 3, wire gauge.....	40	do
50 pounds copper wire, No. 17, wire gauge.....	40	do
2 bundles Russia sheet iron, No. 20, wire gauge, say 300 lbs.	15	do
1,000 pounds ⅜-inch boiler rivets 1⅜ inch long from inside of head.....	10	do
1,000 pounds of pure white dry lead.....	8½	do
1,000 pounds of pure red lead.....	7	do
600 pounds Spanish brown, dry.....	2	do
30 gallons linseed oil, raw.....	75	per gallon.
150 gallons best quality winter-strained sperm oil.....	1 20	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. July 20	1854. June 30	Storer & Stephenson—Cont'd.	200 pounds best quality sperm candles	$0 40 per pound.	Washington.
			5,000 pounds ¾-inch composition sheathing nails	28 do	Gosport.
			2,000 pounds 1-inch composition sheathing nails	28 do	
			6,000 pounds 1¼-inch composition sheathing nails	18 do	
			2,000 pounds 1½-inch composition sheathing nails	30 do	
			150 bolts No. 2 flax canvas	13 00 per bolt.	
			100 bolts No. 3....do	12 50 do	
			300 bolts No. 4....do	12 00 do	
			100 bolts No. 5....do	12 00 do	
			200 bolts No. 6....do	10 75 do	
			200 bolts No. 7....do	9 75 do	
			50 bolts No. 8....do	11 00 do	
			500 pounds flax sewing twine	50 per pound.	
			200 pounds cotton sewing twine	50 do	
			50 pounds cotton whipping twine	20 do	
			1,000 pounds flax seine twine	15 do	
			20,000 pounds pure dry white lead	7⅞ do	
			2,000 pounds pure dry red lead	10 do	
			500 pounds pure dry litharge	6 do	
			15 pounds pure Chinese vermilion	1 00 do	
			200 pounds pure dry chrome green	20 do	
			2,000 pounds pure lampblack	1 do	
			6,000 pounds pure dry Spanish whiting	1 do	
			500 pounds pure yellow ochre, dry	4 do	
			1,000 pounds pure red ochre, dry	1 do	
			100 pounds pure gum shellac	20 do	
			150 pounds pure Turkey umber	2 do	
			50 pounds pure terra di sienna	8 do	
			150 pounds pure gum copal, South American	10 do	
			100 pounds pure gum copal, East Indian	70 do	

100 pounds pure gum, Demarara	20	do	
2,000 gallons pure flaxseed oil	70	per gallon.	
40 gallons pure sweet oil	1 00	do	
500 gallons fish oil	40	do	
300 gallons spirits of turpentine	60	do	
100 gallons Japan drying	1 00	do	
10 gallons spirits of wine	1 00	do	
300 gallons tar oil	40	do	
500 pounds white zinc paint, ground in oil	8	per pound.	
500 pounds white zinc paint, ground in spirits of turpentine.	8	do	
5 pounds zinc drier	2 00	per gallon.	
3,000 pounds pure sperm candles, 6 to pound	45	per pound.	
3,000 gallons best pure winter-strained sperm oil	1 10	per gallon.	
2,600 pounds sheet lead	8	per pound.	Pensacola.
225 feet lead pipe, various sizes	50	per foot.	
150 pounds Banca block tin	26	per pound.	
200 sheets XX tin	16	per sheet.	
1,000 pounds 1¼-inch composition sheathing nails	25	per pound.	
200 pounds ⅞-inch do	24	do	
100 pounds seine twine	30	do	
100 pounds whipping twine	30	do	
50 pounds cotton twine	30	do	
100 corn brooms	24	each.	
200 hickory brooms	10	do	
12 hair brooms	1 00	do	
50 clamp brushes	30	do	
100 whitewash brushes	2 00	do	
2,500 pounds tallow	14	per pound.	
100 pounds spun cotton, for caulking	10	do	
25 pounds thrums	40	do	
220 pounds Castile soap	15	do	
200 sheets lantern, horn	10	per sheet.	
20 yards white flannel	50	per yard.	
6 log slates	1 00	each.	
50 gallons fish oil	40	per gallon.	
40 barrels pitch	4 50	per barrel.	
60 barrels raw turpentine	4 00	do	
2,500 pounds hemp whipping stuff	12	per pound.	

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 22	June 30	William Lang	20,000 pounds flat iron, various sizes	$0 4 per pound.	Philadelphia.
			26 sheets iron, various dimensions	1 00 per sheet.	
July 22	June 30	Christian S. Storms	1,000 pounds flax sewing twine, 3-thread	24 per pound.	Brooklyn.
			500 pounds cotton sewing twine, 5 and 6-thread	20 do	
			25 pounds seine sewing twine	25 do	
July 25	June 30	J. Davis, jr., Treas. R. C. Co.	49,562 pounds copper, sheathing, braziers', and bolt	26¾ do	Charlestown.
			68,120 pounds copper, sheathing, bolt, and braziers'	28½ do	Brooklyn.
July 28	June 30	Eli Dyer	2,000 bushels best quality maple or pine charcoal	9¾ per bushel.	Washington.
July 27	June 30	Albert L. Avery	6 braces and bits (full-set bits)	6 00 each.	Pensacola.
			24 brass door buttons, with plates, 1½-inch	50 do	
			12 1-inch brass cocks	1 25 do	
			12 ¾-inch brass cocks	1 25 do	
			3 glaziers' diamonds	6 50 do	
			1 set dies	10 00 per set.	
			1 set letters	5 00 do	
			1 set figures	5 00 do	
			4 9-inch patent filters	10 00 each.	
			6 tin gallon measures	50 do	
			6 tin half-gallon measures	40 do	
			6 tin quart measures	20 do	
			6 tin pint measures	10 do	
			48 tin grog measures (to contain 1 gill)	8 do	
			6 patent spring balances	1 60 do	
			500 pounds 20-penny iron cut nails	6 per pound.	
			150,000 ¾-inch clout nails	60 per 1,000.	
			50,000 1-inch clout nails	60 do	
			20,000 1¼-inch clout nails	60 do	
			100 pounds 3-penny finishing nails	8 per pound.	
			200 pounds 6-penny ..... do	6¼ do	
			300 pounds 8-penny ..... do	6¼ do	

400 pounds 10-penny	do	6¼	do
24 large iron coal shovels		1 40	each.
6 silver calls		8 00	do
1 gross ¼-inch iron screws		40	per gross.
2 gross ⅜-inch	do	40	do
4 gross ½-inch	do	50	do
4 gross 1-inch	do	50	do
4 gross 1¼-inch	do	1 00	do
4 gross 1½-inch	do	1 00	do
4 gross 1¾-inch	do	1 00	do
4 gross 2-inch	do	1 00	do
2 gross 2½-inch	do	1 50	do
2 gross 3-inch	do	2 00	do
2 gross 3½-inch	do	2 00	do
1 gross ¼-inch brass screws		40	do
2 gross ⅜-inch	do	45	do
4 gross ½-inch	do	50	do
6 gross ⅝-inch	do	55	do
12 gross ¾-inch	do	60	do
12 gross 1-inch	do	1 75	do
10 gross 1¼-inch	do	1 85	do
5 gross 1½-inch	do	2 00	do
4 gross 2-inch	do	2 50	do
4 gross 2½-inch brass screws		2 50	per gross.
4 gross 3-inch	do	3 75	do
6 butchers' steels		60	each.
24 4-inch brass flush-bolts		40	do
12 hand wood-pumps		1 25	do
72 cabin door-hooks, brass, with plates and eyes		35	do
12 pairs 1-inch brass butt hinges		15	per pair.
12 pairs 1¼-inch	do	20	do
24 pairs 3½-inch	do	30	do
24 pairs 4 by 4 inch	do	65	do
12 dozen brass eyes, ½-inch wire		1 50	per dozen.
3 dozen ¾-inch brass knobs, with plates		3 50	do
6 dozen 2-inch mahogany knobs		25	do
4 dozen 1¾-inch	do	25	do
4 dozen 1¼-inch	do	25	do
4 dozen brass flush rings		5 00	do
12 dozen brass screw rings, assorted		50	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 27	June 30	Albert L. Avery—Continued..	12 large glass-globe lanterns	$2 00 each	Pensacola.
			6 large tin bread-scales, with beams	2 50 do	
			150 cords oak wood, sound and dry, none to be less than 4 inches diameter	2 94 per cord.	
			100 cords pine wood, (light wood)	2 94 do	
			100 bushels charcoal	20 per bushel.	
Aug. 6	June 30	Storer & Stephenson	1,000 pounds sheet lead, ¼ inch thick	7 per pound..	Washington.
			1,000 pounds ....do....8 pounds to the foot	7 do	
			800 pounds .....do....6 pounds to the foot	8 do	
			800 pounds .....do....5 pounds to the foot	8 do	
			350 pounds .....do....3½ pounds to the foot	6 do	
			1,000 pounds lead pipe, various sizes	7½ do	
			10,000 pounds best quality English or East India tin	25 do	
			20 boxes I X tin	12 00 per box.	
			22,000 pounds sheet copper	29 per pound..	Pensacola.
			1,275 pounds brazier copper	35 do	
			2,000 pounds round and square copper	34 do	
			800 pounds $\frac{5}{16}$-inch square iron	6 do	Gosport.
			5,000 pounds $\frac{3}{8}$-inch.... do	4 do	
			8,000 pounds $\frac{7}{16}$-inch... do	3 do	
			4,000 pounds ½-inch.... do	5 do	
			1,000 pounds 2½-inch... do	3½ do	
			1,000 pounds 2¾-inch... do	3½ do	
			2,000 pounds 2¾-inch... do	2 do	
			2,000 pounds 4-inch.... do	2 do	
			1,500 pounds 4⅛-inch... do	3½ do	
			1,500 pounds 5-inch.... do	3½ do	
			2,000 pounds ½-inch round iron	3 do	
			1,500 pounds $\frac{9}{16}$-inch....do	4 do	
			1,500 pounds $\frac{5}{8}$-inch.....do	4 do	

1,500 pounds $\frac{7}{16}$-inch	do	3
2,000 pounds $\frac{1}{2}$-inch	do	4
2,000 pounds $\frac{9}{16}$-inch	do	3
2,000 pounds $\frac{5}{8}$-inch	do	4
5,000 pounds $\frac{3}{4}$-inch	do	4
4,000 pounds 1-inch	do	3½
3,000 pounds 1$\frac{1}{16}$-inch	do	3½
5,000 pounds 1$\frac{1}{8}$-inch	do	5
4,000 pounds 1$\frac{1}{4}$-inch	do	3½
1,500 pounds 3-inch	do	4
1,000 pounds 3$\frac{1}{2}$-inch	do	3½
1,000 pounds 1 by $\frac{1}{4}$-inch flat iron		4
2,000 pounds 1 by $\frac{5}{8}$-inch	do	3
500 pounds 1$\frac{1}{4}$ by $\frac{1}{4}$-inch	do	4
500 pounds 2 by $\frac{1}{4}$-inch	do	4
1,000 pounds 2 by $\frac{5}{8}$-inch	do	3
1,000 pounds 2 by $\frac{1}{2}$-inch	do	4
500 pounds 2 by $\frac{5}{8}$-inch	do	4
500 pounds 2 by 1-inch	do	5
500 pounds 2$\frac{1}{2}$ by $\frac{1}{4}$-inch	do	4
1,000 pounds 2$\frac{1}{2}$ by $\frac{1}{2}$-inch	do	2
1,000 pounds 3$\frac{1}{2}$ by 2-inch	do	4
500 pounds 3$\frac{1}{2}$ by $\frac{1}{4}$-inch	do	4
500 pounds 4 by $\frac{1}{4}$-inch	do	4
1,000 pounds 4 by 1$\frac{1}{4}$-inch	do	3
1,500 pounds 4 by 2-inch	do	3½
1,500 pounds 4 by 2$\frac{1}{2}$-inch	do	3
900 pounds 4$\frac{1}{2}$ by 2-inch	do	4
1,000 pounds 4$\frac{1}{2}$ by 2$\frac{1}{2}$-inch	do	3½
1,000 pounds 5 by $\frac{1}{4}$-inch	do	3
1,000 pounds 5 by 1$\frac{1}{4}$-inch	do	3
800 pounds 5 by 1$\frac{1}{2}$-inch	do	4
500 pounds 5 by 2-inch	do	4
1,0 0 pounds 5 by 2$\frac{1}{2}$-inch	do	3½
1,000 pounds 5 by 3-inch	do	3½
2,000 pounds 5$\frac{1}{4}$ by 1$\frac{1}{4}$-inch	do	2
2,000 pounds 5$\frac{1}{2}$ by $\frac{1}{4}$-inch	do	4
2,000 pounds 6 by $\frac{1}{4}$-inch	do	3
500 pounds 6 by $\frac{1}{4}$-inch	do	4

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853. Aug. 6	1854. June 30	Storer & Stephenson—Cont'd.	800 pounds 6 by ⅞-inch flat iron	$0 5 per pound.	Gosport.
			800 pounds 6 by 1½-inch ....do	4 do	
			800 pounds 6 by 1½-inch ....do	5 do	
			800 pounds 6½ by ½-inch ....do	5 do	
			800 pounds 6½ by 1-inch ....do	5 do	
			500 pounds 7 by ⅝-inch .....do	5 do	
			500 pounds 8 by ⅝-inch .....do	5 do	
			500 pounds 9 by ⅝-inch .....do	4 do	
			300 pounds 9 by 1-inch .....do	6 do	
			200 pounds ½-inch plate iron, 6 feet long, 30 inches wide	5 do	
			4,000 pounds ½-inch plate iron, 6 feet long, 30 inches wide	6 do	
			3,000 pounds $\frac{5}{16}$-inch plate iron, 6 feet long, 30 inches wide	5 do	
			1,000 pounds $\frac{7}{16}$-inch plate iron, 6 feet long, 30 inches wide	5 do	
			2,000 pounds 1½ by $\frac{1}{16}$-inch hoop iron	5 do	
			3,000 pounds 1½ by $\frac{1}{16}$-inch....do	3 do	
			3,000 pounds 1½ by $\frac{1}{16}$-inch....do	4 do	
			3,000 pounds 1 by $\frac{1}{16}$-inch.....do	3 do	
			500 pounds No. 14 sheet iron, 26 by 84 inches	2 do	
			500 pounds No. 16 sheet iron, 30 by 84 inches	3 do	
			500 pounds No. 15 sheet iron, 26 by 84 inches	5 do	
			500 pounds No. 17 sheet iron, 30 by 72 inches	5 do	
			500 pounds No. 18 sheet iron, 26 by 84 inches	3 do	
			400 pounds No. 20 sheet iron, 26 by 72 inches	5 do	
			200 pounds No. 22 sheet iron, 26 by 72 inches	3 do	
			200 pounds No. 24 sheet iron, 24 by 72 inches	5 do	
			350 pounds No. 18 Russia iron	12 do	
			250 pounds No. 20.... .do	15 do	
			240 pounds No. 22. ....do	12 do	
			230 pounds No. 24.... .do	15 do	
			5 tons Scott's gray pig iron, (per ton of 2,240 pounds)	28 00 per ton.	

			sions	28¼	do	
			17,600 pounds bolt copper, various dimensions	28¼	do	
			13,749 pounds brazier copper, various dimensions	28¼	do	
Aug. 9	June 30	Horton, Hall & Co	3,000 pounds 3-inch round iron	4½	do	Charlestown.
			1,000 pounds 2¾-inch do	3	do	
			1,000 pounds 2½-inch do	3	do	
			5,000 pounds ⅝-inch do	4½	do	
			3,000 pounds ½-inch do	4½	do	
			4,000 pounds ⅜-inch do	3½	do	
			1,500 pounds $\frac{5}{16}$-inch do	3½	do	
			1,000 pounds ¼-inch do	3½	do	
			800 pounds ¼-inch do	5½	do	
			2,500 pounds 6 by 1-inch flat iron	4	do	
			1,000 pounds 5 by 1-inch do	4½	do	
			4,000 pounds 5 by ½-inch do	4	do	
			2,000 pounds 4 by ½-inch do	4	do	
			5,000 pounds 5 by 2½-inch do	3½	do	
			2,000 pounds light 5-penny hoop iron	4½	do	
			3,000 pounds heavy 4-penny do	4½	do	
			3,000 pounds light 3-penny do	2½	do	
			1,500 pounds No. 17, 1½ inch wide, hoop iron	4½	do	
			1,500 pounds No. 18, 1 inch wide do	3	do	
			1,000 pounds No. 19, ¾ inch wide do	3	do	
			1,000 pounds No. 22, ½ inch wide do	4½	do	
			2,000 pounds Russia sheet iron, No. 15	7	do	
			1,000 pounds English sheet iron, Nos. 15 and 22	4	do	
			1,000 pounds Russia nail rods	6½	do	
			500 pounds Russia spike rods	3½	do	
			500 pounds ¾-inch best quality boiler iron	3½	do	
			500 pounds $\frac{5}{16}$ inch do do	7	do	
Aug. 15	June 30	Caleb Bonsal	65,700 pounds iron, square and round, various dimensions	$3\frac{5}{16}$	do	Washington.
Aug. 18	June 30	Erastus Corning	15,800 pounds iron, flat, various dimensions	4¼	do	Pensacola.
			20 sheets ¼-inch boiler iron, 6 feet by 2½ feet—say 3,000 pounds	6¾	do	
July 20	Dec. 30	Horton, Hall & Co	5 tons (of 2,240 pounds) best quality lignumvitæ, 8 inches diameter	39 00	per ton	Charlestown.

LIST OF CONTRACTS—Continued.

Date.	Expiration	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 20	Dec. 30	Horton, Hall & Co—Cont'd..	5 tons (of 2,240 pounds) best quality lignumvitæ, 9 inches diameter	$40 00 per ton	Charlestown.
			5 tons (of 2,240 pounds) best quality lignumvitæ, 10 inches diameter	45 00 do	
July 20	Dec. 30	Storer & Stephenson	3 tons (of 2,240 pounds) lignumvitæ, 5 inches diameter	20 00 do	Brooklyn.
			3 tons do do 6 do	30 00 do	
			3 tons do do 7 do	40 00 do	
			3 tons do do 8 do	50 00 do	
			3 tons do do 9 do	60 00 do	
			3 tons do do 10 do	70 00 do	
			2 tons do do 11 do	75 00 do	
			2 tons do do 12 do	75 00 do	
July 21	Dec. 30	J. Bigler	170,000 feet white-pine lumber, various dimensions	38 50 per 1,000	Philadelphia.
			38,000 feet ash lumber do	30 00 do	
			9,000 feet black-walnut lumber do	45 00 do	
			3,000 feet cherry lumber do	45 00 do	
			2,000 feet ⅞ inch poplar boards	25 00 do	
			198,200 feet Susquehanna No. 1 white-pine plank and boards	38 50 do	Gosport.
			20,000 feet Susquehanna No. 2 white-pine plank and boards	30 00 do	
July 22	Dec. 30	George Parris	2 rudder stocks, 33 feet long, net diameter at head 24 inches, net siding at heel 10 inches	60 00 per stock	Philadelphia.
			2 rudder stocks, 24 feet long, net diameter at head 18 inches, net siding at heel 8 inches	50 00 do	
			50 hickory capstan bars, 15 feet long, 9½ inches square at butt, 3½ inches square at top end	1 50 per bar.	
July 23	Dec. 30	L. M. Beall & Bro	3,435 feet Delaware white oak for trestle-trees, various dimensions	50 00 per 1,000	
			19 pieces of crooked plank for cross-trees, various dimensions	5 00 per piece.	

			3,908 feet of Susquehanna or upland white oak, various dimensions	45 00	per 1,000.	
			4,500 feet of white oak plank, various dimensions	40 00	do	
July 23	Dec. 30	J. N. McAlpine	8,963 cubic feet of mast and spar timber, various dimensions	43	per cub. ft.	
July 25	Dec. 31	Joseph Temple	40,000 cubic feet of long leaf, fine grain, southern yellow pine plank stocks	22½	do	Gosport.
			5,320 cubic feet yellow pine spars, various dimensions	27	do	
July 26	Dec. 30	S. G. Bogert	30,000 cubic feet white oak plank stocks	60	do	Charlestown.
			2,000 cubic feet white oak butt pieces, from 20 to 35 feet long	1 00	do	
			1,000 cubic feet white oak curve timber, various lengths and sizes	1 84	do	
			20 white oak limb arm knees, estimated at 200 inches	1 00	per inch.	
			10 white oak knees for cat-heads, estimated at 140 inches	2 00	do	
			3,000 cubic feet white oak promiscuous timber, from 25 to 35 feet long	50	per cub. ft.	
			1,200 cubic feet white oak butt-pieces, from 12 to 25 feet long	50	do	
			40 pieces white oak timber, from 13 to 16 feet long, estimated at 400 cubic feet	1 00	do	
			200 white oak boat knees, from 30 to 36 inches long, and 4 inches wide	3 00	each.	
			30 pieces white oak timber, from 13 to 16 feet long, estimated at 508 cubic feet	1 50	per cub. ft.	
			500 cubic feet white ash butt-pieces, 14 to 25 feet long, 18 inches diameter	40	do	
			12,000 feet, board measure, ash plank	35 00	per 1,000.	
			1,500 feet, board measure, black walnut boards	35 00	do	
			500 feet, board measure, black walnut boards, 12 to 20 feet long, 20 inches wide	60 00	do	
			1,000 feet, board measure, black walnut 2-inch plank, 12 to 20 feet long, 15 inches wide	60 00	do	
			1,000 feet 3-inch black walnut plank, 12 to 20 feet long, 15 inches wide	60 00	do	
			500 feet black walnut 3½-inch plank, 12 to 20 feet long, 15 inches wide	60 00	do	
			300 feet hard mahogany 4-inch plank, 16 to 18 inches wide	200 00	do	
			350 feet hard mahogany 5½-inch plank, 16 to 18 inches wide	200 00	do	
			5,000 feet 1-inch cypress boards, 20 to 30 feet long, 9 to 12 inches wide	50 00	do	

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.		Navy yard where deliverable.
1853. July 26	1854. Dec. 30	S. G. Bogert—Continued.....	1,000 feet cedar boards, 15 to 20 feet long, 8 to 12 inches wide, ⅞-inch thick.....	$40 00	per 1,000.	Charlestown.
			600 cubic feet elm timber, 12 to 25 feet long, to average 16 inches in diameter.....	50	per cub. ft.	
			400 white oak knees; say 3,400 inches.....	1 55	per inch...	Brooklyn.
			250 white oak boat knees; say 1,375 inches.....	1 00	do	
			2 pieces African oak, 5 feet long, 22 inches square.....	175 00	per piece.	
			2 pieces African oak, 7 feet long, 24 inches square.....	250 00	do	
			150 cubic feet round ash timber.....	40	per cub. ft.	
			100 white ash oars, 17 feet in length.....	1 20	per oar.	
			1,000 feet, board measure, 1-inch ash boards.....	30 00	per 1,000.	
			5,500 feet, board measure, 1¼-inch...do.....	30 00	do	
			3,500 feet, board measure, 1½-inch...do.....	30 00	do	
			2,500 feet, board measure, 1¾-inch...do.....	30 00	do	
			4,500 feet, board measure, 2-inch...do.....	30 00	do	
			1,000 feet, board measure, 2¼-inch...do.....	30 00	do	
			1,000 feet, board measure, 3-inch...do.....	30 00	do	
			25,000 feet ash plank, various dimensions.....	45 00	do.....	Washington.
			70,000 feet white pine timber, various dimensions.....	40 00	do	
			2,000 superficial feet ½-inch poplar boards, sound and well seasoned.....	20 00	do	
			2,500 superficial feet 1¼-inch beach boards, in 14-feet lengths	30 00	do	
			12 hickory butts, each 14 feet long.....	2 00	each.....	Gosport.
			70 white hickory butts, each 10 feet long.....	1 50	do	
			10 white hickory butts, each 6 feet long.....	1 00	do	
			1,100 white ash oar-rafters, various dimensions, estimated at 17,250 lineal feet.....	6	per lin. ft.	
			24,000 feet of white ash plank boards, various dimensions...	35 00	per 1,000.	
			28,000 feet clear white pine, (various dimensions,) board measure.....	60 00	do.....	Pensacola.

July 26	Dec. 30	Charles Rolfe	3,000 cubic ft. white pine timber—none less than 35 ft.—to average 45 ft, and not less than 14 inches at top end of stick	24	per cub. ft.	Brooklyn.
			8,000 feet, board measure, clear white pine plank, 2-inch	42 50	per 1,000.	
			5,000 feet do do 1½-inch	42 50	do	
			5,000 feet do do 1¼-inch	42 50	do	
			35,000 feet do do 1-inch	40 00	do	
			10,000 feet do do ⅞-inch	40 00	do	
			30,000 feet, board measure, 3-inch white pine plank, 20 to 30 feet in length, to average 25 feet, 12 inches wide	25 00	do	
			7,000 feet, board meas., 2-inch merchantable white pine plank	20 00	do	
			8,000 feet, board meas., merchantable white pine plank, 1½-inch	20 00	do	
			25,000 feet, board meas., 1-inch merchantable white pine plank	22 50	do	
			18,000 feet, board measure, 1-inch box boards, white pine	17 50	do	
			2,000 1-inch Albany boards	18	per board.	
			6,000 1¼-inch Albany plank	24	per plank.	
July 27	Dec. 30	S. G. Bogert	20,000 cubic feet long leaf, fine grain, yellow pine plank stocks, to be from 35 to 45 feet in length, averaging 43 feet, and not less than 12 inches square at the top end of the stick	34	per cub. ft.	
July 27	Dec. 30	N. W. Coffin	400 cubic feet white pine timber, 15 to 18 inches square, 20 to 30 feet long	30	do	Charlestown.
			10,000 feet, board measure, best quality white deck plank, 3 inches thick, 6 inches wide, 25 to 35 feet long	40 00	per 1,000.	
			5,000 feet, board measure, No. 1 white pine 2-inch plank	44 00	do	
			20,000 feet do No. 2 do 2-inch plank	36 00	do	
			20,000 feet do No. 3 do 2-inch plank	26 00	do	
			10,000 feet do No. 2 do 1½-inch plank	40 00	do	
			5,000 feet do No. 1 do 1-inch boards	44 00	do	
			25,000 feet do No. 2 do 1-inch boards	36 00	do	
			20,000 feet do No. 3 do 1-inch boards	26 00	do	
			2 cords best quality hickory butt pieces, from 6 to 8 feet long, 10 to 15 inches diameter	25 00	per cord.	
			1,000 white ash oars, different sizes, estimated at 15,050 lineal feet	5½	per lin. ft.	
			50 black spruce spars, 50 to 60 feet long, 12 inches diameter in the middle, 8 inches top end, clear of bark	20 00	per spar.	
			1,000 inches black spruce spars, from 5 to 8 inches in diameter in the middle, 5 feet in length for every inch in diameter, the diameter at the top to be two-thirds of the middle diameter	8	per inch.	

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1853.	1854.				
July 27	Dec. 30	N. W. Coffin—Continued.....	100 black spruce poles, 20 to 30 feet long, 3 to 4 inches in diameter.....	$0 25 each.....	Charlestown.
July 30	Dec. 30	A. J. Fitch.....	40,000 cubic feet white oak plank stocks.....	4¾ per cub. ft.	Brooklyn.
			2-0 feet beach plank, 1½-inch.....	30 00 per 1,000.	
			3,000 feet 1½-inch cypress plank, 20 to 30 feet in length.....	35 00 do	
			3,000 feet 1-inch .....do.....do.....	35 00 do	
			3,000 feet ⅞-inch .....do.....do.....	35 00 do	
			2,000 feet ¾-inch .....do.....do.....	35 00 do	
			1,000 feet 1-inch cherry boards.....	45 00 do	
			100 feet 2-inch mahogany plank.....	120 00 do	
			200 feet 1-inch mahogany boards.....	120 00 do	
			200 feet ½-inch mahogany boards.....	120 00 do	
			4,000 feet 1-inch black walnut boards.....	60 00 do	
			2,000 feet 1½-inch black walnut plank.....	60 00 do	
			5,000 feet ⅝-inch clear white cedar boards, 14 to 20 feet long.	40 00 do	
			3,000 feet ½-inch .....do.....do.....	40 00 do	
			8,000 feet elm plank, various dimensions.....	40 00 do.....	Gosport.
			25,000 feet cypress plank and boards, various dimensions....	40 00 do	
			5,500 feet mahogany, various dimensions.....	160 00 do	
			7,000 feet black walnut, various dimensions.....	75 00 do	
			4,000 feet cherry plank, various dimensions.....	60 00 do	
July 28	Dec. 30	F. A. Southmayd.....	9,000 feet white oak plank, various dimensions.....	39 00 do.....	Brooklyn.
			60 pieces black spruce spars, various dimensions.....	13 00 per piece.	
			2,000 inches black spruce spars, 6 to 9½ inches, to average 7 inches, to be 5 feet in length to every inch in diameter...	24 per inch.	
			300 rough hickory bars, 6 feet long, 2½ inches square.....	30 per piece.	
July 29	Dec. 30	John Petty.....	75 rough hickory bars, 12 feet long, 5½ inches square.....	1 20 do	
			3,475 feet yellow pine for masts, various dimensions.....	37½ per cub. ft.	Kittery.
			6,979 cubic feet mast and spar timber, various dimensions...	39¾ do.....	Brooklyn.
			3,000 feet 1½-inch yellow pine plank.....	35 00 per 1,000	

			35,000 cubic feet white oak plank stocks		29½ per cub. ft	Gosport.
			50 pieces promiscuous white oak—say 2,250 cubic feet		25 do	
			40 pieces promiscuous white oak—say about 2,000 cubic feet		50 do	
			12,360 feet white oak butt cutts, different sizes	60	00 per 1,000.	
			50 pieces northern locust, 12 feet long, 12 inches diameter at smallest end—say 500 cubic feet	1	00 per cub. ft.	
July 31	Dec. 30	John Nash	35,000 cubic feet white oak plank stocks		42 do	Kittery.
Aug. 4	Dec. 30	Oakman & Eldridge	1,000 inches black spruce spars, to average 8 inches		33 per inch	Philadelphia.
			10 pieces 45 feet long, 7 inches at top end	10	00 per piece.	
			10 pieces 50 ....do....7½ .....do	12	00 do	
			10 pieces 55 ....do....8 .....do	14	00 do	
			10 pieces 60 ....do....8½ .....do	20	00 do	
			10 pieces 65 ....do....9 .....do	27	00 do	
			100 poles		75 per pole.	
Aug. 8	Dec. 30	W. H. Baker	56,000 feet white oak plank, various dimensions	70	00 per 1,000	Pensacola.
Aug. 8	Dec. 30	C. P. Knapp	10 feet 12-inch spars, 54 feet long	19	00 per spar.	
			10 feet 11-inch spars, 49 feet long	19	00 do	
			10 feet 10-inch spars, 45 feet long	15	00 do	
			10 feet 9-inch spars, 41 feet long	10	00 do	
July 19	June 30	L. Timberlake	300 bolts No. 1 flax canvas	13	19 per bolt	Charlestown.
			200 bolts No. 2 ....do	11	89 do	
			200 bolts No. 3 ....do	11	19 do	
			200 bolts No. 4 ....do	10	29 do	
			100 bolts No. 5 ....do	9	46 do	
			200 bolts No 6 ....do	8	53 do	
			150 bolts No. 7 ....do	7	73 do	
			150 bolts No. 8 ....do	6	90 do	
			100 bolts No. 1 ....do	13	19 do	Brooklyn.
			100 bolts No. 2 ....do	11	89 do	
			250 bolts No. 3 ....do	11	19 do	
			100 bolts No. 4 ....do	10	29 do	
			130 bolts No. 5 ....do	9	46 do	
			200 bolts No. 6 ....do	8	53 do	
			120 bolts No. 7 ....do	7	73 do	
			180 bolts No. 8 ....do	6	90 do	

No. 5.

Abstract of the annual report, dated 2d November, 1853, from the Bureau of Provisions and Clothing, as required by the resolution of the Senate, dated August 26, 1852.

Transmits estimates for the fiscal year commencing 1st July, 1854, and the statements and abstracts required by the several acts of Congress, and reasons for the estimate for contingent.

Renews the recommendation in relation to the establishment of a public bakery for the navy, and reasons therefor.

Objections to the contract system, and recommends that at least certain articles should be exempted from the proviso to the act of Congress making appropriations for the naval service, approved 3d March, 1843.

Several contractors have failed to make deliveries.

Suggests that the department be authorized to reject the bids of defaulting contractors, and those of persons who are not manufacturers or regular dealers in the articles they offer to supply, and as due to those who are.

Recommends a revision of the navy ration, and that the department be vested with discretionary power to modify it, by availing itself of the scientific discoveries of the day.

That a prescribed limit should be made to the commutation of rations, and some reasons therefor.

That returns of navy agents, &c., have been punctually forwarded.

The balances on hand of the appropriations for this bureau are ample, and that rigid economy has been enforced.

Shipments of stores since 1st July, 1853.

Renews recommendation in favor of more adequate compensation to clerks and assistants in the pay department of the navy.

Recommends an addition to the pay of two of the clerks in this bureau, whose salaries were reduced by the act of last session.

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BUREAU OF PROVISIONS AND CLOTHING,
November 2, 1853.

SIR: I have the honor to submit herewith estimates (marked A, B, and C) for the amounts which will be required for objects under the cognizance of this bureau, for the fiscal year commencing on the 1st of July, 1854, with such statements and abstracts (marked D to O) as are required by the acts of Congress of April 21, 1808, March 3, 1809, and March 3, 1843.

The estimate C, for "contingent" to defray expenses of transportation, &c., was made for the first time last year by this bureau, under the instruction of your predecessor. These expenses have heretofore been paid out of the general fund for contingencies estimated for by the department; but experience has shown that the expenditures, from their very nature, under this head of appropriation, cannot be accurately estimated, and consequently the fund has frequently been exhausted before the close of the fiscal year. It is, therefore, deemed proper to submit it again, in view of the great increase of transportation of stores consequent on the additional forces employed on remote sta-

tions, and in view of the few public storeships remaining at the disposal of the department. It will not add to the expenses of the government, as the public storeships are a source of much greater charge on other appropriations for the navy.

For the purpose of bringing to your notice the suggestions heretofore made in my annual reports to your predecessors, who recommended them to the attention of Congress, I deem it best to present them again, as experience has confirmed me in their justice and necessity, and with the hope that you will give them your sanction and approval.

For many years complaints have been made of the bread furnished for the navy, and large quantities have been condemned—much larger than would have been the case had the articles been manufactured of such materials as specified in the contracts. It is believed—indeed there can be no doubt of the fact—that biscuit can be manufactured of almost any kind of flour, even of the most indifferent description, whether sour, old, or tainted; by adding to which some particular and perhaps deleterious ingredients, may be made a bread of good appearance, and sweet to the taste; yet, in a short time, this article will deteriorate, and become mouldy and wormy.

While every precaution has been taken to send to our vessels on foreign stations such an article of this most important necessary of life as had borne a close inspection, and was to every appearance faultless, it has been found, in many instances, after its arrival abroad, unfit to be issued to our vessels. This has in some cases delayed, quite injuriously, their movements, and subjected the government to heavy losses, from the enhanced price it was compelled to pay in meeting the deficiencies caused by condemnations. This condition of things, against which no care or intelligence can guard, should, if possible to correct, be no longer permitted; and, as the only remedy, I would respectfully suggest the establishment, under the control of this bureau, of a bakery at the navy yard, Brooklyn. I mention this as a proper location because of its central position, the great facilities its large market always affords, and because the major part of our shipments are made from it. From the best information I am enabled to obtain, it is estimated that a suitable building could be erected, the necessary machinery and appurtenances procured and put up, for about $25,000 or $26,000, or the value of the bread condemned in the years 1845 and 1850.

The British and French naval services, in their greater experience, have long since been compelled to abandon the contract system for procuring bread, and now rely entirely upon bakeries established at several of their dock-yards; and they do so, also, for their armies. They even purchase the wheat and manufacture it into flour, (a trouble and expense which would not be incident to our establishment, as good flour in any quantity may always be procured in our markets,) having their establishments constructed for all the different processes, from cleansing and husking the wheat, to its conversion into biscuit ready for packing. Should Congress authorize a bakery, it is respectfully suggested that it be provided that ample time be given for the examination and selection of such plans and machinery, whether foreign or American, as should be found most efficient for the purpose.

The supply of good provisions, as well as of other articles, is of

great importance, both as regards the movements of our vessels and the health of our seamen; but the system of procuring supplies by contract has not, it is well known, secured such at all times; nor has it secured to the public the advantages of the fair competition which Congress undoubtedly intended as one of its objects in the passage of the "proviso to the act of 3d March, 1843." It is a questionable policy to leave so important a matter as the food of the navy to the precarious dependence on "lowest bids." It places the department at the mercy of persons who are neither manufacturers of nor regular dealers in the articles they offer to supply, works great injustice to the latter, and is found to be injurious to the service. A person, for example, having no practical knowledge of and no connexion with the business of baking, obtains a contract for the supply of bread, in consequence of his having underbid the bona-fide manufacturers, and immediately searches for some baker willing to take the execution of the contract off his hands, and leave him a good profit; and the latter of course looks for some advantage from his bargain, and, to secure this, may attempt to pass upon the government an inferior article. The numerous and skilful methods in use at the present day for adulterating flour when converting it into bread, enables an unscrupulous man too easily and frequently to inflict injury and disappointment upon the service. Most of our supplies are monopolized by persons who are not regular dealers or manufacturers; and I strongly recommend that the bids of such persons should be rejected, as well as the bids of those who may have failed to execute promptly and in good faith such contracts as may have been previously entered into by them. Some individuals, no doubt, offer to enter into contracts at low and ruinous prices, hoping for and relying upon some exigency or fortuitous circumstances, in the event of their bids being accepted, to secure the reception of their articles, whether they be inferior or not; or, in the event of a rise in prices, failing altogether to the great detriment of the service in their deliveries, and forcing the government to pay a great deal more than the original contract prices, our only redress being a suit on the contractor's bonds for the recovery of any excess of prices paid by us. The bids of such persons inflict an injury upon the bona-fide manufacturers and regular dealers, who are willing to furnish our supplies at fair prices, by which they can live, and which they expect will enable them to execute their contracts. It has been brought to your notice that several of the contractors have, to the great injury of the service, recently and during the last fiscal year failed to make deliveries. Measures have been taken to recover the damages incurred by the department. I would recommend that, in any event, the articles of flour, rice, raisins, beans, dried fruit, and pickles, be exempted from the proviso of 3d March, 1843. These articles could be procured by open purchase, under proper regulations, of a better quality and on equally favorable terms to the government as by contract.

The ration of the navy requires revision. Some of its component parts are a source of great loss, and are not entirely used by the men, but are thrown overboard by them. The allowance of such articles might be reduced with great advantage to the government and to our seamen one-half, and that of cheese be entirely discontinued; and, in

lieu of them, some addition to other more acceptable parts of the ration might be made. It is respectfully suggested that discretionary power be vested in the department to modify the ration, and avail itself of the scientific discoveries of the day in the preservation of animal and vegetable alimentary substances, many of which are used in the British and French services.

I renew the recommendation that a limit be fixed by law as to the number of rations that may be commuted. No discretion in relation to this should be left to any person. It is the more necessary in view of the enhanced cost of the component parts of the ration, and which will for years go on increasing, in consequence of the probable additional demand for our provisions abroad and at home; and, unless this is done, it will be in vain, as experience has demonstrated, to endeavor to keep the expenditures within the appropriation.

The navy agents, pursers, and storekeepers, at home and abroad, have forwarded with general punctuality the accounts and returns coming under the cognizance of this bureau; and the inspectors at the different yards have fully complied with the instructions of the bureau, and performed their duty with impartiality and justice between the government and the contractors.

There are ample funds on hand of the appropriations coming under the supervision of this bureau to meet all legitimate demands, and it has felt it a duty to meet your views in enforcing the most rigid economy in all its disbursements.

In addition to the statements made, (per statement E,) the bureau has forwarded since 1st July, in the United States storeship "Relief," to Rio, supplies amounting to $23,746 24; in the transient ship "Sea Witch," for Hong Kong, 33,255 80; in the chartered brig "Smyrna," for Spezzia, $17,533 69; and in the chartered barque "Palmetto," for Porto Praya, $26,375 38; and further shipments will be made in a few weeks to Hong Kong and the Pacific.

Our squadrons have been amply supplied with all the necessaries they required.

The compensation of the clerks and assistants of the pay department of the navy is entirely inadequate to secure the services of proper persons, competent to perform the responsible duties devolving on them. Their services are indispensable, and in their fidelity and character the government is as much interested as the purser. I respectfully recommend the subject to your consideration, and to my remarks in former reports.

I would also recommend an increase of pay to two of the clerks in this bureau, whose compensation was reduced by the act of the last session, owing to some misunderstanding. Their duties are arduous, and have been performed with zeal and ability, notwithstanding the reduction of their salary, and encouraged by the hope that their case would meet with future consideration.

I have the honor to be, sir, very respectfully, your obedient servant,

WM. SINCLAIR.

Hon. JAMES C. DOBBIN,
Secretary of the Navy.

Schedule of the papers which accompany the report of the chief of the Bureau of Provisions and Clothing to the Secretary of the Navy, dated November 2, 1853.

A.—Estimate of the expenses of the bureau for the fiscal year.
B.—Estimate for provisions for the navy for the fiscal year.
C.—Estimate for contingent for the navy for the fiscal year.
D.—Statement showing the value of provisions, clothing, and small stores on hand.
E.—Statement showing the value of shipments made by the bureau to foreign stations.
F.—Statement showing the cost of provisions, clothing, and small stores condemned.
G.—Abstract of proposals received for navy supplies.
H.—Abstract of proposals received for clothing and clothing materials.
I.—Abstract of proposals received for small stores.
K.—Abstract of proposals received for tobacco.
L.—Abstract of proposals received for fresh beef and vegetables.
M.—Abstract of proposals received for beef and pork.
N.—Abstract of proposals received for transportation of stores.
O.—Statement of contracts made by the bureau during the fiscal year.

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A.

Estimate of the expenses of the Bureau of Provisions and Clothing for the fiscal year commencing July 1, 1854, and ending June 30, 1855.

For salary of one clerk of the 4th class, per act of Congress of March 3, 1853	$1,800 00
For salaries of four clerks of the 2d class, per act of Congress of March 3, 1853	4,800 00
For salary of one messenger, per act of Congress of August 31, 1842	700 00
	7,300 00

CONTINGENT.

For printing, blank-books, binding, stationery, labor, and miscellaneous items	770 00

Asked to be appropriated for the year ending June 30, 1854:

For salaries of clerks and messenger	$8,150 00
For contingent	770 00
	8,920 00

Appropriated for the year ending June 30, 1854:

For salaries of clerks and messenger	$7,300 00
For contingent	770 00
	8,070 00

Asked to be appropriated for the year ending June 30, 1855:

For salaries of clerks and messenger	$7,300 00
For contingent	770 00
	8,070 00

—

B.

Estimate from the Bureau of Provisions and Clothing for that portion of the naval service coming under its cognizance, for the fiscal year ending June 30, 1855.

Estimate for provisions for 7,500 men:

One ration per day for 7,500 men would be, for the year, 2,737,500 rations; at 20 cents each, is	$547,500 00
One ration per day for 750 commission and warrant officers "attached to vessels for sea-service," for the year would be 273,750 rations; at 20 cents each, is	54,750 00
One ration per day for 750 officers and marines "attached to vessels for sea-service," would be 273,750 rations; at 20 cents each, is	54,750 00
Additional sum required for an estimated number of 4,000 men, who may decline to draw the spirit portion of their ration, as provided by the acts of March 3, 1847, and August 3, 1848	29,200 00
Aggregate amount required	686,200 00

NAVY DEPARTMENT,
Bureau of Provisions and Clothing.

C.

Estimate of the sum which will be required by the Bureau of Provisions and Clothing under the head of contingent, for the fiscal year ending June 30, 1855.

CONTINGENT.

To meet the demands upon the bureau for freight to foreign stations, transportation from station to station within the United States, cooperage, advertising for proposals, printing pursers' blanks, and stationery for cruising vessels..	$40,000 00

NAVY DEPARTMENT,
Bureau of Provisions and Clothing.

—

RECAPITULATION.

Civil.

Salaries	$7,300 00
Contingent	770 00

Navy

Provisions	686,200 00
Contingent	40,000 00

D.

Statement showing the value of provisions, clothing, and small stores on hand at the United States navy yards, and at naval depots on foreign stations, submitted to the department July 1, 1853.

Stations.	Date.	Provisions.	Clothing.	Small stores.
Portsmouth, N. H.	July 1, 1853			
Boston	do	$26,533 60	$28,087 01	$6,608 30
New York	do	47,742 63	21,840 45	7,540 70
Philadelphia	do	6,600 55	9,999 69	2,570 85
Washington	do	29 99	264 61	25 08
Norfolk	do	18,623 19	36,789 92	8,472 46
Pensacola	do	12,240 56	30,155 33	5,216 83
Sancelito, California	Mar. 31, 1853	16,381 16	32,257 52	5,167 33
Valparaiso	do	253 15	11,573 10	2,261 46
Rio de Janeiro	do	5,231 10	8,552 66	3,118 19
Spezzia	do	7,099 99	29,486 60	5,952 64
Porto Praya	do	1,687 37	9,565 79	1,190 39
Macao	Dec. 31, 1852	3,969 48	4,734 83	1,294 10
Shanghai	do	6,156 59	589 45	1,275 29
In transitu—				
To Macao		32,643 40	16,638 21	4,591 40
To N. P. surveying expedition		11,286 67	7,747 55	1,518 42
To Rio de Janeiro		17,189 97	4,273 49	2,282 78
		213,669 49	252,547 21	59,086 22

NAVY DEPARTMENT,
Bureau of Provisions and Clothing.

E.

Statement showing the value of shipments made by the Bureau of Provisions and Clothing to the United States naval squadrons on foreign stations during the fiscal year ending June 30, 1853.

Stations.	Date.	Provisions.	Clothing.	Small stores.
China squadron	Nov., 1852	$6,318 30		
China squadron	Dec., 1852	10,261 44	$7,927 18	$4,167 92
China squadron	June, 1853	32,643 40	16,638 21	4,591 40
Mediterranean squadron	Sept., 1852	14,112 43	4,986 54	3,422 09
Mediterranean squadron	Mar., 1853	12,294 96	3,625 25	3,486 16
African squadron	Oct., 1852	9,719 01	2,564 68	994 04
African squadron	Mar., 1853	13,711 54	1,384 90	1,639 95
Brazil squadron	Sept., 1852	14,626 86	3,532 83	2,336 60
South Pacific squadron	Dec., 1852	14,867 38	5,588 91	2,609 27
North Pacific squadron	June, 1853	11,286 67	7,747 55	1,518 42
		139,841 99	53,996 05	24,765 85

NAVY DEPARTMENT,
Bureau of Provisions and Clothing.

F.

Statement showing the cost of provisions, clothing, and small stores condemned on board the national vessels, and at the naval stores at home and abroad, or otherwise destroyed; loss by breakage, evaporation, or other casualties of the service. Also, the amount condemned and sold at auction, with the amount of net proceeds of such sales, from July 1, 1852, to June 30, 1853, inclusive, so far as returns have been received by the bureau.

Stations, &c.	Provisions.		Clothing.		Small stores.	
	Cost.	Proceeds.	Cost.	Proceeds.	Cost.	Proceeds.
Portsmouth, N. H.	$39 55	$11 78	.....	.....	.....	.....
Boston, Mass.	1,701 80	556 26	$937 72	$169 04	$291 97	$33 93
New York	4,479 77	1,677 73	3,095 95	553 86	292 32	86 73
Philadelphia, Pa.	1,869 80	410 81	1,741 62	310 77	152 74	48 30
Baltimore, Md.	.....	*31 45	.....	*30 26	.....	.....
Washington, D. C.	22 04	60	.....	.....	.....	.....
Norfolk, Va.	5,191 20	274 67	1,251 71	93 20	406 21	22 93
Pensacola, Fla.	2,905 90	414 49	1,196 39	248 84	338 10	105 84
Sancelito, Cal.	9,616 03	7,298 20	1,378 23	420 32	.....	.....
Rio de Janeiro.	595 74	239 88	376 12	77 25	.....	.....
Macao	259 19	31 63	461 51	123 44	.....	.....
Port Praya	297 27	.....	880 70	.....	91 87	.....
Spezzia	628 27	.....	.....	.....	1 00	.....
Valparaiso	80 37	9 13	656 09	95 95	.....	.....
The several national vessels	10,651 50	221 29	70 49	1 41	121 08	.....
	38,338 43	11,177 92	12,046 53	2,124 34	1,695 29	297 73

* The *cost* of these are embraced in amounts stated as condemned on board the several national vessels.

BUREAU OF PROVISIONS AND CLOTHING,
October 14, 1853.

G.—*Abstract of proposals for navy supplies for* 1853–'54, *received under the advertisement of the Bureau of Provisions and Clothing, dated March* 19, 1853.

Names.	Residence.	Flour—per barrel.			Biscuit—per 100 pounds.					
		Boston.	New York.	Norfolk.	Boston.		New York.		Norfolk.	
					Tight.	Flour.	Tight.	Flour.	Tight.	Flour.
J. L. Sanford & Co	New York		$6 50				$4 25	$3 48		
Wells & Provost	do									
Hetfield & Green	Port Byron, N. Y.									
Storer & Stephenson	New York	$6 75	6 25	$6 48						
William Mathews	do									
Benjamin F. Wilson	Boston, Mass	5 85	5 90	5 74	$4 37	$3 87	4 48	3 97	$4 85	$4 35
George Adams	do			7 00						
John A. Higgins	Norfolk, Va	6 45	6 23	5 90						
Aaron Jeffery	do		6 20	6 10						
William Lang	Boston, Mass	6 75	6 90							
Lewis Timberlake	New York	6 25	5 90	5 90						
Mullett & Bradbury	Boston, Mass	6 12								
George R. A. Ricketts	New York									
Alfred M. Coffin	do									
Corlies & Decker	do									
Jacob Hall, jr	Boston, Mass	6 23								
N. Hicks Graham	Philadelphia, Pa	7 12½	6 75	7 12						
Thomas Brown	Georgetown, D. C				4 09	3 72	3 97	3 66	3 90	3 59
G. K. Tyler	Baltimore, Md				4 25	3 90	4 25	3 90	4 15	3 75
Mathew Bartlett	Boston, Mass	6 25	6 70		4 25	3 49	4 48	3 56		
Lewis F. Williams	New York		6 94				6 05	5 50		
St. John O'Doris*	Philadelphia, Pa									
Henry F. Ingraham†										

* Informal.

† Offers biscuit, in flour barrels, at Pensacola, Florida, at 4½ cents per pound.

G—Continued.

Names.	Residence.	Whisky—per gallon.			Sugar—per pound.			Tea—per pound.		
		Boston.	New York.	Norfolk.	Boston.	New York.	Norfolk.	Boston.	New York.	Norfolk.
J. L. Sanford & Co	New York									
Wells & Provost	do									
Hetfield & Green	Port Byron, N. Y									
Storer & Stephenson	New York	$0 28.40	$0 26	$0 27.40	$0 06.48	$0 05.95	$0 06.48	$0 45	$0 39	$0 42
William Mathews	do									
Benjamin F. Wilson	Boston, Mass	33	33	34½	6.95	6.69	7½	48	42	46
George Adams	do			29½			7			42
John A. Higgins	Norfolk, Va	34	33	32	7	7	7	58	59	59
Aaron Jeffery	do					8	8		53	55
William Lang	Boston, Mass	30	30		6.40	6.49		38	39	
Lewis Timberlake	New York	29	27	28				37	36	37
Mullett & Bradbury	Boston, Mass				6¼			38		
George R. A. Ricketts	New York	26.43	25.43	26.43	6.43	6.18	6.43	37.93	37.93	38.33
Alfred M. Coffin	do									
Corlies & Decker	do								37	37
Jacob Hall, jr	Boston, Mass				6.29					
N. Hicks Graham	Philadelphia, Pa	32	31	32	6.48	6.48	6.48	39½	39	39½
Thomas Brown	Georgetown, D. C									
G. K. Tyler	Baltimore, Md									
Mathew Bartlett	Boston, Mass									
Lewis F. Williams	New York		28.24			6¼			59	
St. John O'Doris	Philadelphia, Pa									
Henry F. Ingraham										

G—Continued.

Names.	Residence.	Coffee—per pound.	Rice—per pound.			Butter—per pound.			Molasses—per gallon.		
		New York.	Boston.	New York.	Norfolk.	Boston.	New York.	Norfolk.	Boston.	New York.	Norfolk.
J. L. Sanford & Co	New York										
Wells & Provost	do										
Hetfield & Green	Port Byron, N. Y.						$0 20				
Storer & Stephenson	New York	$0 09.40	$0 04.74	$0 04.48	$0 04.74	$0 35	35	$0 35	$0 32	$0 29	$0 32
William Mathews	do	8.73									
Benjamin F. Wilson	Boston, Mass	10	4.90	4.85	4 7/8	22	20 1/2	23 1/4	30	29 1/2	32 1/4
George Adams	do				5 1/4			25			32
John A. Higgins	Norfolk, Va.	9	4.73	4.70	4.43	24	23	23	32	31	31
Aaron Jeffery	do	14		4.75	4.75		30	30		36	36
William Lang	Boston, Mass	10 1/2	5 1/4	5 1/4		21 1/2	23		26	30	
Lewis Timberlake	New York	9 1/2									
Mullett & Bradbury	Boston, Mass		4.99						24.98		
George R. A. Ricketts	New York	9.74	5.49	5.45	5.64				25 1/4	24.74	25.43
Alfred M. Coffin	do						22				
Corlies & Decker	do										
Jacob Hall, jr	Boston, Mass		4.35			24			27		
N. Hicks Graham	Philadelphia, Pa	10.48	5 1/4	5 1/4	5 1/4	34	33	34	34	34	34
Thomas Brown	Georgetown, D. C.										
G. K. Tyler	Baltimore, Md										
Mathew Bartlett	Boston, Mass										
Lewis F. Williams	New York	9 6/17		4 6/17			21 8/17			34	
St. John O'Doris	Philadelphia, Pa										
Henry F. Ingraham											

G—Continued.

Names.	Residence.	Beans—per bushel.			Vinegar—per gallon.			Pickles—per pound.		
		Boston.	New York.	Norfolk.	Boston.	New York.	Norfolk.	Boston.	New York.	Norfolk.
J. L. Sanford & Co	New York									
Wells & Provost	do				$0 14	$0 13	$0 14	$0 05½	$0 04 7/8	$0 05½
Hetfield & Green	Port Byron, N. Y.		$2 50							
Storer & Stephenson	New York	$2 20	1 98	$2 20	15	15	15			
William Mathews	do									
Benjamin F. Wilson	Boston, Mass	1 85	1 90	1 88	15	15	20	6	6	10
George Adams	do			1 99			12			10
John A. Higgins	Norfolk, Va	2 24	2 20	1 54	25		25			
Aaron Jeffery	do		1 83	1 73		18	18		6	6
William Lang	Boston, Mass	1 90	1 99		12	12½		7	8	
Lewis Timberlake	New York									
Mullett & Bradbury	Boston, Mass	1 87								
George R. A. Ricketts	New York									
Alfred M. Coffin	do		2 00							
Corlies & Decker	do									
Jacob Hall, jr	Boston, Mass	1 90								
N. Hicks Graham	Philadelphia, Pa	2 37½	2 25	2 37½	8.70	8.48	8.60	4.20	3.98	4.37
Thomas Brown	Georgetown, D. C									
G. K. Tyler	Baltimore, Md									
Mathew Bartlett	Boston, Mass									
Lewis F. Williams	New York					9			7	
St. John O'Doris	Philadelphia, Pa									
Henry F. Ingraham										

G—Continued.

Names.	Residence.	Raisins—per pound.			Dried apples—per pound.			Soap—per pound.
		Boston.	New York.	Norfolk.	Boston.	New York.	Norfolk.	Boston, New York, and Norfolk.
J. L. Sanford & Co	New York							
Wells & Provost	do							
Hetfield & Green	Port Byron, N. Y.					$0 10		
Storer & Stephenson	New York	$0 11.48	$0 11.48	$0 11.48	$0 10	10	$0 10	$0 05.90
William Mathews	do							
Benjamin F. Wilson	Boston, Mass	14	12¾	14	7	7¼	7¼	5.86
George Adams	do			12			7	
John A. Higgins	Norfolk, Va.	14	14	14	8	7½	7	5.30
Aaron Jeffery	do		13½	13½		5.95	5.73	6.83
William Lang	Boston, Mass	10	11½		6½	6⅞		4.78
Lewis Timberlake	New York							
Mullett & Bradbury	Boston, Mass	10			6¾			
George R. A. Ricketts	New York	12.17	11.93	12.43				
Alfred M. Coffin	do					6½		
Corlies & Decker	do							
Jacob Hall, jr	Boston, Mass	9						
N. Hicks Graham	Philadelphia, Pa.		14	14				
Thomas Brown	Georgetown, D. C.							
G. K. Tyler	Baltimore, Md							
Mathew Bartlett	Boston, Mass							
Lewis F. Williams	New York		12 $\frac{8}{17}$			5 $\frac{8}{17}$		
St. John O'Doris	Philadelphia, Pa.							
Henry F. Ingraham								

NAVY DEPARTMENT, *Bureau of Provisions and Clothing.*

H..

Abstract of proposals received for clothing and clothing materials, under an advertisement of the Bureau of Provisions and Clothing, dated March 28, 1853.

Names.	Residence.	Class 1.							Class 2.	Class 3.	
		Pea jackets.	Monkey jackets.	Round jackets.	Trowsers.	Overshirts.	Under-shirts.	Drawers.	Blue flannel.	Sheeting frocks.	Duck trowsers.
Lysander Cutter	Dexter, Me.								$0 52		
Currier & Sewall	Boston, Mass.										
John A. Eaton	Boston, Mass.										
Henry Newton	North Weymouth, Mass.										
James McKenna	Boston, Mass.	$5 75	$5 50	$2 50	$4 21	$1 30	$0 82	$0 80	36	$1 20	$0 62½
Nathaniel Gale	Boston, Mass.	8 50	5 75	5 00	3 48	1 40	78	75	35	1 10	79
John Fullmer	Wilmington, Del.										
William Mathews	New York								29. 7		
Storer & Stephenson	New York	5 00	4 00	2 20	3 90	1 35	1 00	1 00	30. 48	1 50	30
Oliver H. Perry, agent	Boston, Mass.								30. 97		
Jonas Forristall	Boston, Mass.										
Sumner Flagg	Boston, Mass.										
Noon & Cochran	Peterborough, N. H.	6 75	5 75	3 75	4 25	1 37½	1 10	96	33⅓		
William H. Allen	Boston, Mass.										
John Wetherbee, jr.	Boston, Mass.										
Joseph J. Whiting	Boston, Mass.	6 00	5 00	2 00	4 30	1 25	95	90	35	1 30	50
J. G. Horn, (informal)	Binghampton, N. Y.										

H—Continued.

Names.	Residence.	Class 4.			Class 5.			Class 6.		Class 7.	Class 8.	Class 9.
		Sheeting.	Duck.	Dungaree.	Calfskin shoes.	Kipskin shoes.	Calfskin pumps.	Stockings.	Socks.	Mattresses.	Bl'k handkerchiefs.	Blankets.
Lysander Cutter	Dexter, Me											$3 50
Currier & Sewall	Boston, Mass									$4 07		
John A. Eaton	Boston, Mass									3 98		
Henry Newton	North Weymouth, Mass.				$1 21	$1 25	$0 95					
James McKenna	Boston, Mass	$0 59½	$0 24½	$0 10½	1 31½	1 25	1 18	$0 58	$0 35¾		$79	
Nathaniel Gale	Boston, Mass	60	30	10							92	
John Fullmer	Wilmington, Del				1 25	1 25	98					
William Mathews	New York	51	17.4	7.3							74.7	1 63
Storer & Stephenson	New York	60	10	7	1 50	1 00	90	36	36	4 48	74.95	1 72
Oliver H. Perry, agent	Boston, Mass											
Jonas Forristall	Boston, Mass				1 22	1 22	1 12			4 47		
Sumner Flagg	Boston, Mass									4 73		
Noon & Cochran	Peterborough, N. H											2 65
William H. Allen	Boston, Mass				1 21	1 19	1 07			4 23		
John Wetherbee, jr	Boston, Mass									4 94		
Joseph J. Whiting	Boston, Mass	61	25	11	1 37	1 32	1 25	58	37		79	
J. G. Horn, (informal)	Binghampton, N. Y											

NAVY DEPARTMENT,
Bureau of Provisions and Clothing.

I.

Abstract of proposals received for small stores, under the advertisement of the Bureau of Provisions and Clothing, dated March 31, 1853.

Articles.	William Mathews, New York.	Storer & Stephenson, New York.	St. John O'Doris, Philadelphia.	Nathaniel Gale, Boston.	William Lang, Boston.
Boxes, shaving.....each.....	$0 04½	$0 05	$0 04½	$0 03	$0 03
Brushes, shaving.....do.....	4½	4	4½	4	5
Brushes, scrubbing.....do.....	18	20	18½	18	20
Brushes, shoe.....do.....	13½	15	13¾	18	20
Brushes, clothes.....do.....	2	2	3	13	25
Buttons, navy, vest.....per gross..	89	1 00	92	3 00	50
Buttons, navy, coat.....do.....	3 20	3 00	4 39	6 00	1 50
Buttons, dead-eye.....do.....	17½	20	18¾	18	20
Blacking, boxes of.....per dozen..	40	40	39	36	50
Beeswax, in ¼-pound cakes.....per pound..	20	22	21	30	22
Combs, coarse.....per dozen..	80	60	79	80	1 50
Combs, fine.....do.....	80	1 00	79	80	1 10
Cotton, spools of.....do.....	40	40	42	45	40
Grass, for hats.....per 100 hands.	1 80	2 00	1 82	2 00	1 50
Handkerchiefs, cotton.....each.....	5	6	6¼	10	3
Handkerchiefs, silk.....do.....	50	50	55	46	60
Jack-knives.....do.....	10	20	18¾	20	20
Looking-glasses.....do.....	16	10	16	10	20
Mustard-seed.....per pound..	16	20	15	15	25
Needles, assorted.....per 1,000..	85	1 00	82	1 00	1 00
Pepper, black.....per pound..	14	15	14½	14	25
Pepper, red.....do.....	12	10	14½	10	5
Razors in single cases.....each.....	18	20	18¾	20	25
Razor strops.....do.....	18	20	18¾	20	30
Ribbon, hat.....per piece..	60	75	58	65	71
Soap, shaving.....per dozen..	12	6	15	20	25
Silk, sewing.....per pound..	3 90	4 00	4 25	5 00	3 00
Scissors.....each.....	12	12	14	14	20
Spoons.....do.....	4	8	5	4	5
Thread, black, white, and blue...per pound..	50	60	55	70	70
Tape, black and white.....per dozen..	19	20	18¾	30	20
Thimbles.....each.....	1½	2	2	2	2

NAVY DEPARTMENT, *Bureau of Provisions and Clothing.*

K.

Abstract of proposals received for the supply of tobacco, under a circular of the Bureau of Provisions and Clothing, dated January 21, 1853.

Names.	Residence.	Price per pound.
N. A. Patterson	Liberty, Bedford Co., Va	$0 25
Lloyd Garland & Co	Lynchburg, Va	30
Hiram B. Dickenson	Richmond, Va	24
Dill, Mulchakey & Co	do	26
N. L. Royster	do	25
Selden C. Mason & Geo. W. Gilliam	do	29½
Benjamin G. Whitall	do	24½
Robert A. Mayo	do	19.62

NAVY DEPARTMENT, *Bureau of Provisions and Clothing.*

—

L.

Abstract of proposals received for the supply of fresh beef and vegetables at the several navy yards during the fiscal year ending June 30, 1854, under advertisements of the respective navy agents, by direction of the Bureau of Provisions and Clothing.

Names.	Where to be delivered.	Beef, per pound.	Vegetables, per pound.
Joseph B. Currier	Portsmouth, N. H	$0 10	$0 1
Edmund A. Dixon	do	9	1
J. B. Severance	Charlestown, Mass.	6½	1¼
Nahum Chapin	do	7	.73
John H. Clapp	do	7½	1½
Benj. J. Weeks	Brooklyn, N. Y.	6.48	2
Benj. W. Valentine	do	5.93	1.93
George Haws	do	6.74	1.05
Hiram Birdsall	do	9	2¾
David Woelpper	Philadelphia, Pa.	10	3
Thos. McCory	do	8¾	3
David Hanem	do	12⅞	7½
Samuel Crans	do	10½	6
George J. Runner	do	13¼	7½
John Crist	do	10½	3¼
George W. Pappler	Baltimore, Md	8¼	3
Philip Otterback	Washington, D. C.	12½	5
William Ward	Gosport, Va	7½	2½
William T. Bell	Pensacola, Florida	5½	2¾
John S. Bell	do	6¼	3
H. A. Nunez	do	6	3
Wm. McVoy	do	8	3
José Sierra	do	6½	2½

NAVY DEPARTMENT,
Bureau of Provisions and Clothing.

M.

Abstract of proposals or the supply of navy beef and navy pork for 1854, *received under the advertisement of the Bureau of Provisions and Clothing, dated August* 20, 1853.

Names.	Residence.	Navy beef.			Navy pork.		
		At Boston.	At New York.	At Norfolk.	At Boston.	At New York.	At Norfolk.
		Per barrel.	*Per barrel.*	*Per barrel.*	*Per barrel.*	*Per barrel.*	*Per barrel.*
Spalding & McAfee	Lebanon, Ky	----	----	----	$19 98¾	$19 98¾	$19 98¾
John H. O'Neal	Bedford Co., Tenn	----	----	----	----	----	17 47
Thomas N. Brooks	Meadville, Pa	$14 69	$14 49	$14 79	----	----	----
Hugh Allen	Meadville, Pa	----	----	----	15 96	15 79	16 29
Andrew J. Rhey	Evansburg, Pa	16 00	15 80	15 90	----	----	----
John C. O'Neal	Evansburg, Pa	----	----	----	16 49	16 19	16 59
J. C. Willard	Washington, D. C	16 75	16 25	16 75	16 25	16 00	16 25
Henry Vanarnam	Troy, N. Y	14 89	14 74	----	14 89	14 85	----
Harrison, Fay & Co.	Boston, Mass.	14 87	----	----	16 68	16 68	17 31
St. John O'Doris	Philadelphia, Pa	14 50	14 50	14 50	15 75	15 75	15 75
James C. Adams	Baltimore, Md	17 93	17 43	----	16 93	16 43	----
Storer & Stephenson	New York	18 00	17 00	18 00	18 00	16 90	18 00
Benjamin M. Wilson	New York	15 98	15 85	15 98	14 94	14 82	14 94
Alonson Cary	Troy, N. Y	14 64	14 49	----	----	----	----
John D. Early	Baltimore, Md	----	----	16 00	----	----	16 00

NAVY DEPARTMENT, *Bureau of Provisions and Clothing.*

N.

Abstract of proposals received for the transportation of stores from the navy yard at Boston to Spezzia, in Sardinia, under an advertisement of the navy agent, (by direction of the Bureau of Provisions and Clothing,) dated February 19, 1853.

Names.	Vessel.	Price per barrel.
Wheelwright & Co		$1 46
Alpheus Hardy & Co	A vessel	1 22
Wm. Worthington & Co		98
Arthur L. Payson		75

Abstract of proposals received for the transportation of stores from the navy yard at Boston to Porto Praya, Cape de Verde, under an advertisement of the navy agent, (by direction of the Bureau of Provisions and Clothing,) dated March 7, 1853.

Names.	Vessel.	Price per barrel
Charles J. Everett		$1 37
Vernon Browne		1 23
C. J. F. Binney	In a good vessel	1 25

Abstract of proposals received for the transportation of stores from the navy yard at Boston to Spezzia, in Sardinia, under an advertisement of the navy agent, (by direction of the Bureau of Provisions and Clothing,) dated July 30, 1853.

Names.	Vessel.	Price per barrel.
Grant, Daniels & Co	Brig "Eunice."	$1 50
Vernon Browne	A suitable vessel	1 40
Nicholas Reggio	Barque "Susan Jane."	90

Abstract of proposals received for the transportation of stores from the navy yard at Boston to Porto Praya, Cape de Verde, under an advertisement of the navy agent, (by direction of the Bureau of Provisions and Clothing,) dated September 1, 1853.

Names.	Vessel.	Price per barrel.
Jno. M. Mayo & Co	A barque	$0 98
Vernon Browne	A superior vessel	1 15
Oakman & Eldridge	A barque	1 20
A. A. Frazer		1 45

O.

Statement of contracts made by the Bureau of Provisions and Clothing, for and in behalf of the Navy Department, for supplies for the Navy, to be delivered during the fiscal year ending June 30, 1854, prepared in obedience to the acts of Congress approved April 21, 1808, and March 3, 1809.

Contractors' names.	Date of contract.	Articles contracted for.	At what price.	Where to be delivered.
N. Hicks Graham	April 30, 1853	Vinegar	$0 08.70 per gallon	Boston.
			8.48 do	New York.
			8.60 do	Norfolk.
		Pickles	4.20 per pound	Boston.
			3.98 do	New York.
			4.37 do	Norfolk.
William Mathews	April 25, 1853	Coffee	8.73 do	New York.
Lewis Timberlake	May 2, 1853	Tea	37 do	Boston.
			36 do	New York.
			37 do	Norfolk.
William Lang	April 30, 1853	Saltwater soap	4.78 do	Boston, New York, and Norfolk.
Jacob Hall, jr	April 29, 1853	Raisins	9 do	Boston.
Storer & Stephenson	April 23, 1853	Raisins	11.48 do	New York and Norfolk.
Mullett & Bradbury	April 28, 1853	Molasses	24.98 per gallon	Boston.
George R. A. Ricketts	April 26, 1853	Molasses	24.74 do	New York.
			25.43 do	Norfolk.
William Lang	May 7, 1853	Dried apples	6½ per pound	Boston.
Lewis F. Williams	April 30, 1853	Dried apples	5 $\frac{8}{17}$ do	New York.
Aaron Jeffery	April 29, 1853	Dried apples	5.73 do	Norfolk.
Mullett & Bradbury	April 28, 1853	Sugar	6⅛ do	Boston.
Storer & Stephenson	April 23, 1853	Sugar	5.95 do	New York.
George R. A. Ricketts	April 26, 1853	Sugar	6.43 do	Norfolk.
Jacob Hall, jr	April 29, 1853	Rice	4.35 do	Boston.
Storer & Stephenson	April 23, 1853	Rice	4.48 do	New York.
John A. Higgins	April 28, 1853	Rice	4.43 do	Norfolk.
Benjamin F. Wilson	April 29, 1853	Beans	1 85 per bushel	Boston.
Aaron Jeffery	April 29, 1853	Beans	1 83 do	New York.

John A. Higgins	April	28, 1853	Beans	1 54	do	Norfolk.
William Lang	April	30, 1853	Butter	21½	per pound	Boston.
Hetfield & Green	April	30, 1853	Butter	20	do	New York.
John A. Higgins	April	28, 1853	Butter	23	do	Norfolk.
Thomas Brown	April	29, 1853	Biscuit, in tight casks	4 09	per 100 lbs.	Boston.
				3 97	do	New York.
				3 90	do	Norfolk.
			Biscuit in flour barrels	3 59	do	Norfolk.
Mathew Bartlett	April	29, 1853	Biscuit in flour barrels	3 49	do	Boston.
Joseph L. Sanford	April	27, 1853	Biscuit in flour barrels	3 48	do	New York.
Henry F. Ingraham	May	10, 1853	Biscuit in flour barrels	4½	per pound	Pensacola.
Lewis Timberlake	May	2, 1853	Flour	5 90	per barrel	New York.
Benjamin F. Wilson	April	29, 1853	Flour	5 85	do	Boston.
				5 74	do	Norfolk.
George R. A. Ricketts	April	26, 1853	Whisky	26.43	per gallon	Boston.
				25.43	do	New York.
				26.43	do	Norfolk.
William Mathews	May	3, 1853	Small stores, viz:			
			Boxes, shaving	4½	each	Boston, New York, and Norfolk.
			Brushes, shaving	4½	do	
			Brushes, scrubbing	18	do	
			Brushes, shoe	13½	do	
			Brushes, clothes	2	do	
			Buttons, navy vest	89	per gross.	
			Buttons, navy coat	3 20	do	
			Buttons, deadeye	17½	do	
			Blacking, boxes of	40	per dozen.	
			Beeswax	20	per pound.	
			Combs, coarse	80	per dozen.	
			Combs, fine	80	do	
			Cotton, spools of	40	do	
			Grass, for hats	1 80	per 100 hands.	
			Handkerchiefs, cotton	5	each.	
			Handkerchiefs, silk	50	do	
			Jack-knives	10	do	
			Looking-glasses	16	do	
			Mustard seed	16	per pound.	
			Needles, assorted	85	per 1,000.	
			Pepper, black	14	per pound.	

O—Continued

Contractors' names.	Date of contract.	Articles contracted for.	At what price.	Where to be delivered.
William Mathews—Continued ...	May 3, 1853	Small stores, viz:		
		Pepper, red	12 per pound..	Boston, New York, and Norfolk.
		Razors	18 each.	
		Razor strops	18 do	
		Ribbon, hat	60 per piece.	
		Soap, shaving	12 per dozen.	
		Silk, sewing	3 90 per pound.	
		Scissors	12 each.	
		Spoons	4 do	
		Thread	50 per pound.	
		Tape	19 per dozen.	
		Thimbles	1¼ each.	
William Mathews	April 30, 1853	Blue flannel	29.7 per yard.	
		Blankets	1 63 each.	
		Barnsley sheeting	51 per yard.	
		Canvas duck	17.4 do	
		Dungaree	7.3 do	
		Black silk handkerchiefs	74.7 do	
Joseph J. Whiting	May 4, 1853	Barnsley sheeting frocks	1 30 do	
		Canvas duck trowsers	50 per pair.	
Brewer & Stephenson	April 29, 1853	Blue pea jackets	5 00 each.	
		Blue monkey jackets	4 00 do	
		Blue round jackets	2 90 do	
		Blue trowsers	3 90 do	
		Blue flannel overshirts	1 35 do	
		Blue flannel undershirts	1 00 do	
		Blue flannel drawers	1 00 do	
		Woollen stockings	36 per pair.	
		Woollen socks	36 do	
John A. Eaton	May 3, 1853	Mattresses and covers	3 98 each.	
Brewer & Stephenson	April 29, 1853	Calf-skin shoes	1 50 per pair.	
		Kip-skin shoes	1 00 do	

			Calf-skin pumps	96	do	
Edmund A. Dixon	May	20, 1853	Fresh beef	9	per pound	Portsmouth, N. H.
			Vegetables	1	do	
Nahum Chapin	June	28, 1853	Fresh beef	7	do	Boston.
			Vegetables	0.73	do	
George Haws	May	26, 1853	Fresh beef	6.74	do	New York.
			Vegetables	1.5	do	
Thomas McCoy	May	26, 1853	Fresh beef	8¾	do	Philadelphia.
			Vegetables	3	do	
George W. Pappler	May	30, 1853	Fresh beef	8½	do	Baltimore.
			Vegetables	3	do	
Philip Otterback	June	16, 1853	Fresh beef	12½	do	Washington.
			Vegetables	5	do	
William Ward	May	19, 1853	Fresh beef	7½	do	Norfolk.
			Vegetables	2½	do	
William T. Bell	June	15, 1853	Fresh beef	5½	do	Pensacola.
			Vegetables	2¾	do	
Robert A. Mayo, (for four years)	Feb.	26, 1853	Tobacco	19.62	do	Boston, New York, and Norfolk.
Alonson Cary	Oct.	17, 1853	1,400 barrels navy beef	14 64	per barrel	Boston.
Thomas N. Brooks	Oct.	8, 1853	2,600 barrels navy beef	14 49	do	New York.
Thomas N. Brooks	Oct.	22, 1853	1,400 barrels navy beef	14 79	do	Norfolk.
Henry Vanarnam	Oct.	3, 1853	1,200 barrels navy pork	14 89	do	Boston.
Benjamin M. Wilson	Oct.	5, 1853	2,400 barrels navy pork	14 82	do	New York.
			1,200 barrels navy pork	14 94	do	Norfolk.

CHARTER PARTIES.

Brig "Manzanilla"	Feb.	28, 1853	Freight of stores	75	per barrel	To Spezzia, Sardinia.
Barque "Gipsey"	March	21, 1853	....do	1 25	do	To Porto Praya, Cape de Verde.
Brig "Smyrna"	Aug.	12, 1853	....do	1 40	do	To Spezzia, Sardinia.
Barque "Palmetto"	Sept.	26, 1853	....do	1 75	do	To Porto Praya, Cape de Verde.

NAVY DEPARTMENT, *Bureau of Provisions and Clothing.*

No. 6.

NAVY DEPARTMENT,
Bureau of Medicine and Surgery, October 26, 1853.

SIR: Agreeably to your instructions of the 9th July, ultimo, I have the honor to submit herewith estimates of the several sums required for the support of this bureau and the medical department of the naval service (hospitals excepted) during the fiscal year ending June 30, 1855.

The fiscal condition of this department is reported as follows:

Balance of appropriation for "surgeons' necessaries and appliances" remaining on hand June 30, 1853	$15,834 08
Amount appropriated by act of Congress, approved March 3, 1853	37,300 00
Balance of "surgeons' appliances" in treasury, October 1, 1853	43,686 00
Amount of naval hospital fund in treasury, October 1, 1853	131,430 94
Amount required for the support of the Bureau of Medicine and Surgery, during the fiscal year ending June 30, 1855	8,530 00
Amount required for "surgeons' necessaries and appliances" on board sea-going and receiving ships, at navy yards, naval stations, for the marine corps, coast survey, observatory, and temporary relief of officers and seamen in vessels and at stations having no medical officer	35,575 00

Subjoined are tabular statements derived from the "sick reports from medical stations within the United States, as well as from the various squadrons in commission—the former for the year ending June 30, 1853; the latter for the year ending December 31, 1852, excepting from the East India squadron, which, probably, would not greatly vary the statement.

The vessels composing our force, in commission on foreign service, are so widely and remotely distributed that full returns for a remote period cannot be exhibited.

Squadrons.	Remaining sick Dec. 31, 1851.	Admitted during the year.	Died.	Remaining Dec. 31, 1852.	Per-centage of deaths.
Home	36	1,277	6	21	0.45
Mediterranean	33	890	3	31	0.32
Pacific	76	1,592	15	31	0.88
Brazil	15	825	1	21	0.11
African	38	865	6	24	0.68
Aggregate	188	5,449	31	128	0.55

	Remaining sick June 30, 1852.	Admitted during the year.	Died.	Remaining June 30, 1853.	Per-centage of deaths.
Hospitals	148	748	39	120	4.35
Navy yards, receiving ships, &c.	60	2,150	10	43	0.45

The act of Congress approved March 3, 1853, made no change in the force of this bureau, though the salaries of those employed in it underwent the following modifications: Pay of the assistant to the chief, increased from $1,400 to $1,800; one clerk, reduced from $1,400 to $1,200. Increase of salaries under the act, $200.

The estimates for the medical service afloat, at navy yards and shore stations, are somewhat below those of preceding years. Hospital establishments and the naval asylum are not embraced in the estimates, as they derive their support exclusively from the "naval hospital fund."

This fund has been deprived of one source of revenue by the operation of an act of Congress approved March 3, 1850, prohibiting all further credits for the value of rations stopped on account of sick on board vessels in commission. Its income now is derived from a deduction of twenty cents per month from the pay of every officer, seaman, and marine, under the act of March 2, 1799; and from the transfer of the amount of pensions by those in receipt of them, upon admission to the naval asylum, under the act of February 6, 1811; and from the value of such rations as are stopped, on account of sick, in the different naval hospitals. The draughts upon this fund, from various sources, appear so far to exceed its revenues as to present a gradual diminution, which promises to extinguish it entirely at no remote period.

The amount of the fund in treasury October 1, 1848, $209,856 19; October 1, 1853, $131,430 94.

In this period of five years, it will be seen that $78,425 25 have been expended from the fund, in addition to its income.

Some augmentation of the medical corps of the navy has been repeatedly and urgently recommended by this bureau. I can only add my own conviction of its very great necessity to the arguments and expositions used by my predecessor.

The number of surgeons established by the act of Congress of August 4, 1843, at sixty-nine, is manifestly below the requirements of the service; and, while several of the senior surgeons are now beyond the age of active duty, medical stations, both afloat and ashore, have multiplied since this limitation was fixed.

The aggregate number of captains and commanders in the navy is one hundred and sixty-five, while the number of surgeons is but sixty-nine; yet, wherever either of the above officers can be employed, a surgeon also is usually necessary.

It is believed that the corps of assistant surgeons, from its disproportionate number, is called upon to perform a larger amount of sea-se

vice than is required of any grade in the navy. Such an increase, therefore, of the number of medical officers as would bear a fair proportion to the others of the service, and afford the usual respite from duty, and necessary repose after active cruising in climates often unfavorable to health, would seem to be alike a measure of necessity and justice.

Number of surgeons in service		69
Number required for service, on shore and afloat, during the year	56	
Disabled by age and infirmity	12	
		— 68
Remaining		1
Number of assistant surgeons in service		79
Required for service, ashore and afloat		75
Disabled		5

I am, very respectfully, your obedient servant,

W. WHELAN.

Hon. JAMES C. DOBBIN,
Secretary of the Navy.

A.

Estimate of the amount required for the support of the Bureau of Medicine and Surgery, for the year ending June 30, 1855, *under act of Congress, approved March* 3, 1853.

Salary of chief of bureau	$3,000 00	
Salary of one clerk, fourth class	1,800 00	
Salary of two clerks, second class	2,400 00	
Salary of messenger	700 00	
		$7,900 00
CONTINGENT EXPENSES.		
Labor*	180 00	
Blank books and stationery	350 00	
Miscellaneous items	100 00	
		630 00
Total required		8,530 00
Required last year		8,270 00

W. WHELAN.

*The item "labor" is estimated at $180, an addition of $60 having been authorized by the late Secretary of the Navy.

B.

Estimate from the Bureau of Medicine and Surgery of the amount required for the support of the medical department of ships afloat, navy yards, naval stations, marine corps, and coast survey, for the year ending June 30, 1855.

Frigates—6.

Six, at $1,200 each		$7,200 00

Sloops—16.

Seven, of first class, at $800 each	$5,600 00	
Six, of second class, at $700 each	4,200 00	
Three, of third class, at $600 each	1,800 00	
		11,600 00

Steam-frigates—5.

Five, of first class, at $700 each		3,500 00

Steamers—7.

Four, of first class, at $400 each	$1,600 00	
Three, of second class, at $300 each	900 00	
		2,500 00

Brigs—4.

Four, at $400 each		1,600 00

Storeships—7.

Seven, at $200 each		1,400 00

Receiving-ships—4.

One, at $1,000	$1,000 00	
Two, at $600 each	1,200 00	
One, at $300	300 00	
		2,500 00

Navy yards—8.

Portsmouth, New Hampshire	$100 00
Boston	250 00
New York	350 00
Philadelphia, *including* receiving-ship Union	350 00

Washington	$300 00	
Norfolk	350 00	
Pensacola	500 00	
Memphis	50 00	
		$2,250 00

Naval stations—3.

Marine barracks, Washington	$1,500 00	
Naval school, Annapolis	400 00	
Observatory, and general relief of officers	300 00	
		2,200 00

Coast Survey.

Three steamers, at $125 each	$375 00	
One steamer, at $50	50 00	
Two schooners, at $50 each	100 00	
Temporary relief of sick seamen in vessels having no medical officer	300 00	
		825 00
Total required		35,575 00
Required last year		37,300 00

RECAPITULATION.

Civil.

Salaries	$7,900 00
Contingent	630 00

Navy.

Surgeons' necessaries	35,575 00

W. WHELAN.

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No. 7.

HEADQUARTERS OF THE MARINE CORPS,
Washington, November 17, 1853.

SIR: In the course of the summer and autumn of the present year I have visited and inspected the barracks of the marine corps at Portsmouth, New Hampshire, Boston, New York, Philadelphia, Norfolk, and Pensacola. The latter station is so distant, and there are so few men at it, that I have not deemed it necessary to inspect it, except at intervals of four or five years, as the cost of transportation is so great.

At Portsmouth, New Hampshire, the barracks are sufficient for the troops now there, or for any number that the wants of the service will require for many years to come.

At Boston, the barracks are greatly decayed, having been erected, more than forty years ago, of imperfect materials. I recommend that ground be purchased on which to erect new barracks. Suitable ground, very near the wall, could have been procured last year on reasonable terms, and I believe is still unsold. Earth is wanted in the yard to fill up low grounds, and the purchase of this site will furnish it, and thus save a large expenditure in hauling earth from a distance. This purchase will also prevent improper houses from being built so near the wall.

At New York, the marines occupy as barracks what was once the alms-house. The building is unsuitable for military quarters, and a large rent is paid for it. The United States own ground suitable for barracks, and the propriety of erecting them is evident.

The barracks at Philadelphia are old and dilapidated, and the ground on which they stand is required for naval purposes. South of the navy-yard, ground, I understand, is owned by the United States, suitable for barracks, where they may be conveniently erected.

The barracks at Norfolk were condemned many years ago, but have been allowed to stand as temporary quarters for the small guard stationed there. Ground for the erection of new barracks can be purchased at a moderate price, and joining the wall of the yard; and I recommend its purchase for that purpose.

At the main gate of the navy yard at Pensacola there is a guard-house sufficiently large for the small force now there. It is, however, wholly inadequate for such a force as a naval depot so important and isolated would seem to require for its protection.

On all these stations the force is so small as to furnish but one or two sentinels, and thus rendering it necessary to hire an irresponsible civil watch to protect interests so vast and important as those at the several naval depots.

In the barracks at headquarters, all the recruits enlisted at the rendezvous at New York are drilled, as thoroughly as they can be during the short time they are allowed to remain in them. It is seldom any of them can be kept here more than six or eight weeks, while six or eight months are insufficient to make them experienced soldiers; and none but such soldiers should be sent on board our ships-of-war.

A guard of recruits was recently sent on board the frigate Columbia, a greater part of which had been on drill but two weeks, and some few of them but two days. These recruits conducted themselves correctly while on drill here, but broke down so soon as they were sent to execute the duty of well-drilled soldiers on board a man-of-war, where constant and severe duty is imposed upon them.

The only way to provide effective guards for ships-of-war, is to prepare them by a thorough drill before they are sent to sea. Such a drill is absolutely indispensable in preparing them for foreign service. This important object cannot be obtained except by such an increase of the rank and file of the corps as will admit of recruits being sufficiently long on shore to allow them to be completely drilled and di

ciplined. To allow this, it is necessary to maintain on shore a regular and well-drilled relief for each guard on foreign service.

The force so maintained on shore, and drilled and prepared to meet its legitimate responsibilities, may be employed in affording ample and reliable protection to all naval depots. It may likewise be used, in case of exigency, on service with the army, as has already been the case both in Florida and in the valley of Mexico. In both these services it maintained its character for energy and discipline, and shared in all the dangers and horrors of the two campaigns.

In support of these views, I enclose to the department a table showing the aggregate strength of the guards now at sea, as well as those that will be required, according to an estimate of the department, in the course of the ensuing year, and before the return of vessels now on foreign service.

Punishment for insubordination and misconduct has been considered a strong conservative principle in preserving discipline and good order in a ship-of-war. A military guard of efficient soldiers is another.

The infliction of the usual punishment having been prohibited by law, an extension of the other conservative principle may be naturally and even necessarily resorted to. An increase, therefore, of the guards of the several ships-of-war may become useful under such circumstances, and I do not hesitate in asserting that such an increase by well-drilled soldiers will be eminently beneficial. In this view I am sustained by the opinion of most of the active officers of the navy; and so sustained, I can hardly fail in impressing on the department the propriety of at least giving to this subject the attention that may be due to it. The present guard is too small now to furnish the necessary sentinels without imposing too severe a duty on the soldier. An addition of one-third to the strength of the guard would relieve the men greatly in their duty on post.

Should you concur in opinion that a military guard is useful in preserving discipline and good order in a ship-of-war, a still larger addition to its strength is advisable—say two-thirds. Even this increase would make the guard small compared with those in the British service, where a line-of-battle ship has 150 marines, and frigates and other vessels comparatively as large a force, while the duty in each service is very much the same.

The present drill of the corps on shore is exclusively that of the infantry. The artillery drill, especially that of light artillery, would be highly beneficial in case of landing a force in a foreign country.

A battalion at headquarters and at New York would be sufficient for uniting the artillery with the infantry drill, and thus add greatly to the efficiency of the soldiers of the corps.

The marine corps, as its appointments are now made, cannot long maintain a comparative efficiency with either the navy or army. Officers are introduced into it without the advantages of a military education, and consequently wholly unprepared for any service requiring an application of science. Graduates from West Point would supply this deficiency, and place the corps on a just and equal footing with the other arms of the service. Promotion is so slow in the marine corps, that several of its captains and even of its lieutenants have be-

come unfit for active duty, rendering it advisable that a retired list be resorted to for its greater utility and efficiency. It is my opinion that advantage of station, and even of rank, should attend an active, efficient, and faithful performance of duty.

I remain, with great respect, yours,

ARCH. HENDERSON,
Bvt. Brig. Gen. Commandant.

Hon. J. C. DOBBIN,
Secretary of the Navy.

General return of the officers, non-commissioned officers, musicians, and privates of the United States Marine Corps, for the month of October, 1853.

Stations, &c.	Brig'r gen'l commandant.	Commissioned staff.	Lieutenant colonel.	Majors.	Captains.	First lieutenants.	Second lieutenants.	Non-commissioned staff.	Orderly sergeants.	Sergeants.	Corporals.	Musicians.	Drummers.	Fifers.	Privates.	Aggregate.	Remarks.
Headquarters	1	3	....	....	....	....	1	....	....	....	....	....	....	....	....	5	Washington City marine barracks: Brigadier General Henderson, the adjutant and inspector, quartermaster, paymaster, and aid to brigadier general commandant.
Marine barracks at Washington City.	....	....	....	1	1	2	5	4	1	9	5	31	4	1	82	146	Nineteen privates returned here are boys learning music; Captain and Brevet Major Terrett on temporary leave of absence.
Guard at the navy yard, D. C.	....	....	....	....	1	1	....	....	1	....	3	....	1	1	20	28	
Brooklyn, N. Y.	....	....	....	1	....	2	2	....	1	6	2	....	....	....	31	45	Lieutenant Adams absent—sick in Bloomingdale insane asylum: one sergeant returned here is on duty in the assistant quartermaster's office. In addition to this aggregate, one drummer, one fifer, and seventeen privates joined temporarily from steamer Princeton on 12th instant.
Charlestown, Mass.	....	....	....	1	....	1	....	....	1	3	2	....	1	1	28	38	In addition to this aggregate, one sergeant and five privates joined temporarily from sloop Dale.
Gosport, Va.	....	....	....	....	1	....	....	....	1	4	4	....	1	1	19	31	
Philadelphia, Pa	....	....	....	1	....	1	....	....	1	3	3	....	1	1	35	46	

Portsmouth, N. H.	....	....	....	....	1	1	....	....	1	1	2	....	....	1	14	21	
Pensacola, W. F.	....	....	....	....	....	....	1	....	1	1	2	....	....	....	24	29	
Assistant quartermaster's office, N. Y.	....	1	....	....	1	....	....	....	....	....	....	....	....	....	....	2	Captain Lindsay on leave of absence for three months from 3d August, 1853, with permission to visit Europe.
Receiving-ship Pennsylvania	....	....	....	....	....	1	....	....	1	1	2	....	1	1	14	21	
Receiving-ship North Carolina	....	....	....	....	1	....	....	....	1	1	2	....	1	1	34	41	
Receiving-ship Ohio	....	....	....	....	....	1	....	....	1	....	2	....	....	....	20	24	
Receiving-ship Union	....	....	....	....	....	....	....	....	1	....	2	....	....	....	12	15	
Steamer Susquehanna	....	....	....	....	....	1	....	....	1	2	3	....	1	1	34	43	March 31, 1853.
Steamer Mississippi	....	....	....	....	1	....	....	....	1	2	4	....	1	1	39	49	March 31, 1853.
Steamer Michigan	....	....	....	....	....	1	....	....	1	....	2	....	....	....	6	10	October 31, 1853.
Steamer Fulton	....	....	....	....	....	....	....	....	1	....	1	....	....	....	8	10	September 30, 1853; temporarily attached to Philadelphia barracks.
Steamer Princeton	....	....	....	....	....	....	1	....	1	....	2	....	1	1	20	26	September 30, 1853. One drummer, one fifer, and seventeen privates returned here are temporarily attached to the New York barracks.
Steamer Powhatan	....	....	....	....	....	1	....	....	1	2	3	....	1	1	37	46	July 31, 1853.
Steamer Alleghany	....	....	....	....	....	....	....	....	1	....	2	....	1	1	17	22	This guard joined from Gosport, Va., September 2, 1853.
Frigate Constitution	....	....	....	....	1	....	....	....	1	2	2	....	1	1	43	51	June 30, 1853.
Frigate Columbia	....	....	....	....	1	....	1	....	1	2	3	....	1	1	37	47	October 31, 1853.
Frigate Cumberland	....	....	....	....	....	1	1	....	1	2	4	....	1	1	40	51	August 31, 1853.
Frigate Savannah	....	....	....	....	....	1	1	....	1	2	3	....	1	1	41	51	August 31, 1853.
Frigate St. Lawrence	....	....	....	....	....	1	....	....	1	2	4	....	1	1	31	41	August 31, 1853.
Frigate Macedonian	....	....	....	....	....	1	....	....	1	1	2	....	1	1	24	31	May 31, 1853.
Sloop Saratoga	....	....	....	....	....	1	....	....	1	....	2	....	1	1	14	20	March 31, 1853.
Sloop Vincennes	....	....	....	....	....	....	....	....	1	1	2	....	1	1	20	26	April 30, 1853.
Sloop Vandalia	....	....	....	....	....	....	1	....	1	1	2	....	1	....	19	25	March 31, 1853.
Sloop St. Louis	....	....	....	....	....	....	1	....	1	....	3	....	1	1	18	25	September 30, 1853.
Sloop Cyane	....	....	....	....	....	....	....	....	1	1	2	....	1	....	18	23	September 30, 1853; temporarily attached to Philadelphia barracks.
Sloop Levant	....	....	....	....	....	....	....	....	1	1	2	....	1	....	19	24	August 31, 1853.
Sloop Portsmouth	....	....	....	....	....	....	1	....	1	....	2	....	1	1	14	20	August 31, 1853.
Sloop Plymouth	....	....	....	....	....	....	....	....	1	1	2	....	1	1	18	24	February 28, 1853.
Sloop Albany	....	....	....	....	....	....	....	....	1	....	2	....	....	....	18	21	September 30, 1853.
Sloop St. Mary's	....	....	....	....	....	....	1	....	1	....	2	....	1	1	20	26	This guard joined from Philadelphia on September 26, 1853.

General return of officers, &c.—Continued.

Stations, &c.	Brig'r gen'l commandant.	Commissioned staff.	Lieutenant colonel.	Majors.	Captains.	First lieutenants.	Second lieutenants.	Non-commissioned staff.	Orderly sergeants.	Sergeants.	Corporals.	Musicians.	Drummers.	Fifers.	Privates.	Aggregate.	Remarks.
Sloop Jamestown	....	....	....	....	....	....	1	....	1	....	2	....	1	1	18	24	July 31, 1853.
Sloop Preble	....	....	....	....	....	....	....	....	1	....	2	....	....	....	10	13	October 31, 1853.
Sloop Marion	....	....	....	....	....	....	....	....	1	....	2	....	1	1	18	23	August 31, 1853.
Sloop Dale	....	....	....	....	....	....	....	....	1	....	2	....	1	1	20	25	September 30, 1853. One sergeant and five privates returned here are temporarily attached to the Charlestown barracks.
Brig Bainbridge	....	....	....	....	....	....	....	....	....	....	1	....	....	....	5	6	October 31, 1853.
Brig Perry	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	4	May 10, 1853.
Brig Dolphin	....	....	....	....	....	....	....	....	....	....	1	....	....	....	5	6	This guard joined from Gosport, Va., on May 14, 1853.
Superintending recruiting service.	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	Lieutenant Colonel Miller; see remarks on G. R. of November, 1848.
Recruiting rendezvous, N. York	....	....	....	....	1	....	....	....	1	1	....	....	....	....	1	4	October 31, 1853.
Waiting orders	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1	Captain Macomber, at New York.
Under orders	....	....	....	....	2	....	1	....	....	1	2	....	....	1	26	33	Captain Williams to navy yard at Washington City; Captain and Brevet Major Gillespie to Pensacola, W. F; Lieutenant Boyd from Philadelphia on October 27, 1853; the sergeants, corporals, fifer, and twenty-six privates from the marine barrack at Washington City to Gosport, Va., for the steamer Saranac.
On special service	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	2	At the Naval School at Annapolis, Md.

On leave of absence.....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....	2	last. Lieutenant McNeill, from 12th July last, sick; Lieutenant Butterfield sick, with permission, on the 17th March last, to leave the United States for twelve months.
Total.....	1	4	1	4	13	20	20	4	40	53	99	31	34	30	995	1,349	

HEADQUARTERS OF THE MARINE CORPS, *Adjutant and Inspector's Office, Washington, November* 16, 1853

P. G. HOWLE, *Adjutant and Inspector.*

...e showing the number of commissioned, non-commissioned officers, musicians, and privates of the marine corps, on sea duty and under orders for sea duty, on the 14th November, 1853.

Vessels.	Captains.	First lieutenants.	Second lieutenants.	First sergeants.	Sergeants.	Corporals.	Drummers.	Fifers.	Privates.	Aggregate.	Remarks.
Receiving-ship Pennsylvania	.....	1	.....	1	1	2	1	1	14	21	
Receiving-ship North Carolina	1	.....	.....	1	1	2	1	1	34	41	
Receiving-ship Ohio	.....	1	.....	1	.....	2	.....	.....	20	24	
Receiving-ship Union	.....	.....	.....	1	.....	2	.....	.....	12	15	
Steamer Susquehanna	.....	1	.....	1	2	3	1	1	34	43	
Steamer Mississippi	1	.....	.....	1	2	4	1	1	39	49	
Steamer Michigan	.....	1	.....	1	.....	2	.....	.....	6	10	
Steamer Saranac	.....	.....	1	1	1	2	1	1	28	35	
Steamer Fulton	.....	.....	.....	1	.....	1	.....	.....	8	10	Temporarily attached to the Philadelphia barracks, October 31, 1853.
Steamer Princeton	.....	.....	1	1	.....	2	1	1	20	26	Temporarily attached to the Brooklyn barracks, October 31, 1853, with the exception of 2 corporals and 3 privates.
Steamer Powhatan	.....	1	.....	1	2	3	1	1	37	46	
Frigate Constitution	1	.....	.....	1	2	2	1	1	43	51	
Frigate Columbia	1	.....	1	1	2	3	1	1	40	50	3 privates under orders to this guard from New York, November 11, 1853.
Frigate Cumberland	.....	1	1	1	2	4	1	1	40	51	
Frigate Savannah	.....	1	1	1	2	3	1	1	41	51	
Frigate St. Lawrence	.....	1	.....	1	2	4	1	1	31	41	
Frigate Macedonian	.....	1	.....	1	1	2	1	1	24	31	
Sloop Saratoga	.....	1	.....	1	.....	2	1	1	14	20	
Sloop Vincennes	.....	.....	.....	1	1	2	1	1	20	26	
Sloop Vandalia	.....	.....	1	1	1	2	1	.....	19	25	
Sloop St. Louis	.....	.....	1	1	.....	3	1	1	18	25	

Sloop Cyane	.....	.....	.....	1	1	2	1	.....	18	23	Temporarily attached to Philadelphia barracks, October 31, 1853.
Sloop Levant	.....	.....	.....	1	1	2	1	.....	19	24	
Sloop Portsmouth	.....	.....	1	1	.....	2	1	1	14	20	
Sloop Plymouth	.....	.....	.....	1	1	2	1	1	18	24	
Sloop Albany	.....	.....	.....	1	.....	2	.....	.....	18	21	
Sloop Germantown	.....	.....	1	1	.....	2	1	1	20	26	This guard was ordered from the barracks, Washington city, Boston, and 1 sergeant from receiving-ship North Carolina, November 11, 1853. The officer to be ordered.
Sloop St. Mary's	.....	.....	1	1	.....	2	1	1	20	26	
Sloop Jamestown	.....	.....	1	1	.....	2	1	1	18	24	
Sloop Preble	.....	.....	.....	1	.....	2	.....	.....	10	13	
Sloop Marion	.....	.....	.....	1	.....	2	1	1	18	23	
Sloop Dale	.....	.....	.....	1	.....	2	1	1	20	25	
Brig Bainbridge	.....	.....	.....	.....	.....	1	.....	.....	5	6	
Brig Perry	.....	.....	.....	.....	.....	.....	.....	.....	4	4	
Brig Dolphin	.....	.....	.....	.....	.....	1	.....	.....	5	6	
Total	4	10	11	32	25	76	26	23	749	956	

HEADQUARTERS OF THE MARINE CORPS, *Adjutant and Inspector's Office, Washington, November* 14, 1853.

P. G. HOWLE, *Adjutant and Inspector.*

Table showing the additional number of guards, and the strength of each guard for sea duty, agreeably to the statement from the Navy Department of 14th November, 1853.

	Captains.	1st lieutenants.	2d lieutenants.	Sergeants.	Corporals.	Drummers.	Fifers.	Privates.
Razee Independence	1	------	1	3	4	1	1	40
Frigate Congress	1	------	1	3	4	1	1	40
Steam frigate San Jacinto	------	1	------	2	2	1	1	20
Steamer Massachusetts	------	------	------	1	2	------	------	12
Sloop Decatur	------	1	------	2	2	1	1	20
Total	2	2	2	11	14	4	4	132

P. G. HOWLE,
Adjutant and Inspector.

HEADQUARTERS OF THE MARINE CORPS,
Adjutant and Inspector's Office, Washington, November 15, 1853.

No. 7.

HEADQUARTERS OF THE MARINE CORPS,
Washington, September 29, 1853.

SIR: I enclose to the department estimates from the quartermaster's department for the year ending 30th June, 1855.

I remain most respectfully yours,

ARCH. HENDERSON,
Bvt. Brig. Gen., Commandant.

Hon. J. C. DOBBIN,
Secretary of the Navy.

Estimate of the expenses of the Quartermaster's department of the United States marine corps, for one year, from the 1st July, 1854, to June 30, 1855.

There will be required for the quartermaster's department of the marine corps, for one year, commencing on 1st July, 1854, in addition to the balance then remaining on hand, the sum of one hundred and forty-seven thousand two hundred and forty-three dollars and twenty-five cents, as follows, viz:	
1. For provisions	$29,984 75
2. For clothing	52,064 00
3. For fuel	14,194 50
4. For military stores, viz: pay of armorers, repair of arms, purchase of accoutrements, ordnance stores, flags, drums, fifes, and other instruments	8,000 00
5. For transportation of officers and troops, and for expenses of recruiting	12,000 00
6. For repair of barracks, and rent of temporary barracks and offices where there are no public buildings for that purpose	6,000 00
7. For contingencies, viz: freight, ferriage, toll, cartage, wharfage, compensation to judges advocate, per diem for attending courts-martial, courts of inquiry, and for constant labor, house rent in lieu of quarters, burial of deceased marines, printing, stationery, postage, apprehension of deserters, oil, candles, forage, straw, furniture, bed sacks, spades, shovels, axes, picks, carpenters' tools, keep of a horse for the messenger, pay of matron, washerwoman, and porter at hospital, headquarters	25,000 00
Amount required	147,243 25

Respectfully submitted:

AUG. A. NICHOLSON, *Quartermaster Marine Corps.*

PROVISIONS.

For whom required.	Enlisted men.	Washerwomen.	Matron.	Total.	Rations at 15 cents per day.	Rations at 20 cents per day.	Amount.
Non-commissioned officers, musicians, privates, and washerwomen	512	33	....	545	1	.....	$29,838 75
Matron and washerwomen	.....	1	1	2	.....	1	146 00
Amount required	.....	....	....	.....	.....	.....	29,984 75

CLOTHING.

For whom required.	Enlisted men.	Amount.
Non-commissioned officers, musicians, and privates, at $36 per annum	1,224	$44,064 00
1,000 watch-coats, at $8 each	.....	8,000 00
Amount required	.....	52,064 00

FUEL.

For whom required.	Number.	Cords.	Feet.	Cords.	Feet.
Commandant	1	36	4	36	4
Lieutenant colonel	1	26	.....	26	.....
Majors	4	26	.....	104	.....
Staff majors	3	26	.....	78	.....
Staff captains	1	21	2	21	2
Aid-de-camp	1	16	4	16	4
Captains	12	21	2	255	.....
Lieutenants, (first and second)	23	16	4	379	4
Non-commissioned officers, musicians, privates, washerwomen, and servants	546	1	4	819	.....
Matron to hospital, headquarters	1	1	4	1	4
Hospital, headquarters	1	33	.....	33	.....
Hospitals	5	16	4	82	4
Armory at headquarters	1	30	.....	30	.....
Mess-rooms of officers	7	3	4	24	4
Offices of commandant and staff, and commanding officers of posts	15	7	.....	105	.....
Officers of days' room	7	3	4	24	4
Guard-rooms at barracks and navy yards	9	21	.....	189	.....
Stores for clothing and other supplies	3	5	.....	15	.....
One-fourth additional on 500 cords, the quantity supposed to be required for stations north of latitude 39°	.....	.....	.....	125	.....
Total required	.....	.....	.....	2,365	6
Which, at $6 per cord, is				$14,194	36

HEADQUARTERS OF THE U. S. MARINE CORPS,
Washington, October 7, 1853.

SIR: I enclose estimates from the office of the paymaster of the corps for the year ending 30th June, 1855.

I remain most respectfully yours,
ARCH. HENDERSON,
Bvt. Brig. General, Commandant.

Hon. J. C. DOBBIN,
Secretary of the Navy.

HEADQUARTERS MARINE CORPS,
Paymaster's Office, October 7, 1853.

SIR: I have the honor to enclose estimates in triplicate for pay and subsistence, and pay for undrawn clothing, for the United States marine corps, for the year ending June 30, 1855.

The estimate for the pay of captains, first lieutenants commanding, and second lieutenants, is thirty-five hundred and thirty-six dollars less than that of the preceding year, on account of deaths, &c , in those grades, and the consequent reduction of them to the original number. The estimate for longevity rations, and rations and clothing for officers'

ervants, is also reduced fourteen hundred and thirty dollars from the same cause.

There is an increase of eighteen thousand five hundred and fifty-two dollars on account of pay of non-commissioned officers and privates, the President having ordered the enlistment of two hundred additional men, agreeably to the provision of the 1st section of the act making appropriations for the naval service, approved March 3, 1849, authorizing him to substitute marines for landsmen, as far as he may deem expedient, to promote the efficiency of the service.

In the estimate for pay of clerks to brigadier general and staff, I have included the twenty per cent., (which was a separate item in my last estimate,) and also a small increase to the pay of the two clerks in this office authorized by the Hon. Secretary of the Navy, August 8, 1853, the actual increase being only $237 50.

The late Secretary, in November last, authorized an increase to the pay of hospital steward and nurse at hospital: the estimate for them is therefore three hundred and forty-one dollars more than the last.

The other items are the same as for the year ending June 30, 1854.

Increase in pay of non-commissioned officers and privates	$18,552 00	
Increase in pay of clerks, hospital steward, and nurse	578 50	
		$19,130 50
Decrease in pay of captains and lieutenants commanding, and second lieutenants	3,536 00	
Decrease in pay of officers' servants, and longevity rations	1,430 00	
		4,966 00
Actual increase		14,164 50

I am, sir, very respectfully, your obedient servant,

WM. W. RUSSELL,
Paymaster U. S. Marine Corps.

Gen. A. HENDERSON,
Commandant Marine Corps, Headquarters.

Detail estimate of pay and subsistence of officers, pay of non-commissioned officers, musicians, and privates, of the United States marine corps, and pay for undrawn clothing, from July 1, 1854, to June 30, 1855, inclusive.

Rank and grade.	Number.	PAY.				SUBSISTENCE.			Aggregate.
		Pay per month.	Number of servants at seven dollars per month.	Number of servants at eight dollars per month.	Total.	Number of rations per day, at twenty cents per ration.	Number of extra or double rations per day, at twenty cents per ration.	Total.	
Brigadier general, commandant	1	$75 00	2	.....	$1,068 00	6	6	$876 00	$1,944 00
Lieutenant colonel	1	60 00	2	.....	888 00	5	5	730 00	1,618 00
Majors	4	50 00	2	.....	3,072 00	4	4	2,336 00	5,408 00
Adjutant and inspector, paymaster and quartermaster	3	60 00	.....	2	2,736 00	4	.....	876 00	3,612 00
Assistant quartermaster	1	50 00	.....	1	696 00	4	.....	292 00	988 00
Captains commanding posts and at sea	8	50 00	1	.....	5,472 00	4	4	4,672 00	10,144 00
Captains	5	40 00	1	.....	2,820 00	4	.....	1,460 00	4,280 00
First lieutenants commanding guards at sea	7	40 00	1	.....	3,948 00	4	4	4,088 00	8,036 00
First lieutenants	13	30 00	1	.....	5,772 00	4	.....	3,796 00	9,568 00
Second lieutenants	20	25 00	1	.....	7,608 00	4	.....	5,840 00	13,590 00
Sergeant major and quartermaster sergeant	2	17 00	.....	.....	408 00	.....	.....	.....	408 00
Drum and fife majors	2	16 00	.....	.....	384 00	.....	.....	.....	384 00
Orderly sergeants and sergeants of guards at sea	40	16 00	.....	.....	7,680 00	.....	.....	.....	7,680 00
Sergeants	56	13 00	.....	.....	8,736 00	.....	.....	.....	8,736 00
Corporals	96	9 00	.....	.....	10,368 00	.....	.....	.....	10,368 00
Drummers and fifers	60	8 00	.....	.....	5,760 00	.....	.....	.....	5,760 00
Privates	1,168	7 00	.....	.....	98,112 00	.....	.....	.....	98,112 00

Clerks to brigadier general, adjutant and inspector, paymaster, quartermaster, and assistant quartermaster	9	.....	.....	.....	7,016 16	.....	.....	.....	7,016 16
Hospital steward	1	*1 50	.....	.....	547 50	.....	.....	.....	547 50
Additional rations to officers for five years' service	.....	.....	.....	.....	.....	207	.....	15,111 00	15,111 00
Bounty for re-enlistment, (non-commissioned officers)	25	.....	.....	.....	819 00	.....	.....	.....	819 00
Bounty for re-enlistment, (musicians and privates)	125	.....	.....	.....	1,750 00	.....	.....	.....	1,750 00
Two months' pay for unexpired time of former enlistment	125	.....	.....	.....	1,750 00	.....	.....	.....	1,750 00
Two months' rations for unexpired time of former enlistment	125	.....	.....	.....	.....	†1	.....	1,425 00	1,425 00
Two months' clothing for unexpired time of former enlistment	125	.....	.....	.....	.....	.....	.....	625 00	625 00
Officers' servants, at $8 50 per month, for rations and clothing	72	.....	.....	.....	.....	.....	.....	7,344 00	7,344 00
Undrawn clothing	.....	.....	.....	.....	.....	.....	.....	9,000 00	9,000 00
Clerk in clothing store at Norfolk	1	‡23 44	.....	.....	281 28	.....	.....	.....	281 28
Messenger at headquarters	1	*1 50	.....	.....	547 50	.....	.....	.....	547 50
Messenger to assistant quartermaster	1	1 00	.....	.....	365 00	.....	.....	.....	365 00
Nurse at hospital, headquarters	1	1 50	.....	.....	547 50	.....	.....	.....	547 50
Total	.....	.....	.....	.....	179,223 94	.....	.....	58,471 00	237,694 94

* Per day. † At 19 cents. ‡ Per month.

Respectfully submitted:

WM. W. RUSSELL, *Paymaster United States Marine Corps.*

HEADQUARTERS MARINE CORPS, *Paymaster's Office, October 7, 1853.*

RECAPITULATION—MARINE CORPS.

For pay	$237,694 94
For provisions	29,984 75
For clothing	52,064 00
For fuel	14,194 50
For military stores	8,000 00
For transportation	12,000 00
For repairs of barracks, &c	6,000 00
For contingent	25,060 00
	384,938 19

No. 8.

General estimate of the sums required for the support of the office of the Secretary of the Navy, and the several bureaus of the Navy Department, for the fiscal year ending June 30, 1855.

Office, or bureau.	Salaries.	Contingent.
Office of the Secretary of the Navy	$27,100 00	$2,840 00
Bureau of Ordnance and Hydrography	10,800 00	750 00
Bureau of Yards and Docks	13,700 00	1,160 00
Bureau of Construction, Equipment, and Repair	20,800 00	1,100 00
Bureau of Provisions and Clothing	7,300 00	770 00
Bureau of Medicine and Surgery	7,900 00	630 00
	87,600 00	7,250 00

RECAPITULATION.

CIVIL.

Salaries	$87,600 00
Contingent	7,250 00

Amount appropriated for 1853-'54.

Salaries	88,100 00
Contingent	6,430 00

No. 9.

General estimate of the sums required for the expenses of the southwest executive building for the fiscal year ending on the 30th of June, 1855.

CIVIL.

For salaries	$2,250 00
For contingent	3,865 00

Appropriated for 1853-'54.

Salaries	2,250 00
Contingent	3,025 00

No. 10.

Summary statement of the estimates for the navy for the fiscal year 1854–'55.

HEADS.	Office of the Secretary of the Navy.	Bureau of Ordnance and Hydrography.	Bureau of Yards and Docks.	Bureau of Construction, Equipment, & Repair.	Bureau of Provisions and Clothing.	Bureau of Medicine and Surgery.	Aggregate.
NAVY PROPER.							
For pay of the navy	$467,957 00	$147,105 00	$274,976 00	$2,102,610 00			$2,992,648 00
For provisions					$686,200 00		686,200 00
For surgeons' necessaries						$35,575 00	35,575 00
For increase, repairs, &c				3,294,950 00			3,294,950 00
For ordnance and ordnance stores		250,000 00					250,000 00
For contingent enumerated			366,860 00	300,000 00	40,000 00		706,860 00
	467,957 00	397,105 00	641,836 00	5,697,560 00	726,200 00	35,575 00	7,966,233 00
MARINE CORPS.							
For pay							237,694 94
For provisions							29,984 75
For clothing							52,064 00
For fuel							14,194 50
For military stores							8,000 00
For transportation							12,000 00
For repairs of barracks, &c							6,000 00
For contingent							25,000 00
							384,938 19

Table showing the number of commissioned, non-commissioned officers, musicians, and privates of the marine corps, on sea duty and under orders for sea duty, on the 14th November, 1853.

Vessels.	Captains.	First lieutenants.	Second lieutenants.	First sergeants.	Sergeants.	Corporals.	Drummers.	Fifers.	Privates.	Aggregate.	Remarks.
Receiving-ship Pennsylvania	.....	1	.....	1	1	2	1	1	14	21	
Receiving-ship North Carolina	1	.....	.....	1	1	2	1	1	34	41	
Receiving-ship Ohio	.....	1	.....	1	.....	2	.....	.....	20	24	
Receiving-ship Union	.....	.....	.....	1	.....	2	.....	.....	12	15	
Steamer Susquehanna	.....	1	.....	1	2	3	1	1	34	43	
Steamer Mississippi	1	.....	.....	1	2	4	1	1	39	49	
Steamer Michigan	.....	1	.....	1	.....	2	.....	.....	6	10	
Steamer Saranac	.....	.....	1	1	1	2	1	1	28	35	
Steamer Fulton	.....	.....	.....	1	.....	1	.....	.....	8	10	Temporarily attached to the Philadelphia barracks, October 31, 1853.
Steamer Princeton	.....	.....	1	1	.....	2	1	1	20	26	Temporarily attached to the Brooklyn barracks, October 31, 1853, with the exception of 2 corporals and 3 privates.
Steamer Powhatan	.....	1	.....	1	2	3	1	1	37	46	
Frigate Constitution	1	.....	.....	1	2	2	1	1	43	51	
Frigate Columbia	1	.....	1	1	2	3	1	1	40	50	3 privates under orders to this guard from New York, November 11, 1853.
Frigate Cumberland	.....	1	1	1	2	4	1	1	40	51	
Frigate Savannah	.....	1	1	1	2	3	1	1	41	51	
Frigate St. Lawrence	.....	1	.....	1	2	4	1	1	31	41	
Frigate Macedonian	.....	1	.....	1	1	2	1	1	24	31	
Sloop Saratoga	.....	1	.....	1	.....	2	1	1	14	20	
Sloop Vincennes	.....	.....	.....	1	1	2	1	1	20	26	
Sloop Vandalia	.....	.....	1	1	1	2	1	.....	19	25	
Sloop St. Louis	.....	.....	1	1	.....	3	1	1	18	25	

Sloop Cyane	.....	.....	.....	1	1	2	1	.....	18	23	Temporarily attached to Philadelphia barracks, October 31, 1853.
Sloop Levant	.....	.....	.....	1	1	2	1	.....	19	24	
Sloop Portsmouth	.....	.....	1	1	.....	2	1	1	14	20	
Sloop Plymouth	.....	.....	.....	1	1	2	1	1	18	24	
Sloop Albany	.....	.....	.....	1	.....	2	.....	.....	18	21	
Sloop Germantown	.....	.....	1	1	.....	2	1	1	20	26	This guard was ordered from the barracks, Washington city, Boston, and 1 sergeant from receiving-ship North Carolina, November 11, 1853. The officer to be ordered.
Sloop St. Mary's	.....	.....	1	1	.....	2	1	1	20	26	
Sloop Jamestown	.....	.....	1	1	.....	2	1	1	18	24	
Sloop Preble	.....	.....	.....	1	.....	2	.....	.....	10	13	
Sloop Marion	.....	.....	.....	1	.....	2	1	1	18	23	
Sloop Dale	.....	.....	.....	1	.....	2	1	1	20	25	
Brig Bainbridge	.....	.....	.....	.....	.....	1	.....	.....	5	6	
Brig Perry	.....	.....	.....	.....	.....	.....	.....	.....	4	4	
Brig Dolphin	.....	.....	.....	.....	.....	1	.....	.....	5	6	
Total	4	10	11	32	25	76	26	23	749	956	

HEADQUARTERS OF THE MARINE CORPS, *Adjutant and Inspector's Office, Washington, November* 14, 1853.

P. G. HOWLE, *Adjutant and Inspector.*

No. 11.

General estimate of the sums required for the support of the navy for the fiscal year commencing on the first day of July, 1854, and ending on the thirtieth day of June, 1855.

Heads of appropriation.	Estimated for 1854–'55.	Estimated for 1853–'54.	Appropriated for 1853–'54.
For pay of commission, warrant and petty officers, and seamen, including the engineer corps	$2,992,648 00	$2,771,448 00	$2,880,148 00
For provisions for commission, warrant and petty officers, and seamen, including engineers, and also marines attached to vessels for sea service	686,200 00	686,200 00	686,200 00
For surgeons' necessaries and appliances for the sick and hurt of the navy, including the marine corps	35,575 00	37,300 00	37,300 00
For increase, repair, armament and equipment of the navy, including the wear and tear of vessels in commission, fuel for steamers, and purchase of hemp for the navy	3,294,950 00	2,768,450 00	1,941,450 00
For ordnance and ordnance stores, including incidental expenses	250,000 00	230,000 00	200,000 00
For contingent expenses that may accrue for the following purposes, viz: freight and transportation; printing and stationery; advertising in newspapers; books, maps, models, and drawings; purchase and repair of fire-engines and machinery; repairs of, and attending to, steam-engines in navy yards; purchase and maintenance of horses and oxen, and driving teams; for carts, timber-wheels, and the purchase and repair of workmen's tools; postage of public letters; furniture for government houses; fuel, oil, and candles for navy-yards and shore stations; pay of watchmen, and incidental labor not chargeable to any other appropriation; transportation to, and labor attending the delivery of provisions and stores on foreign stations; wharfage, dockage, and rent; travelling expenses of officers and others under orders; funeral expenses; store and office rent; stationery; fuel; commissions and pay of clerks to navy agents and storekeepers; flags, awnings, and packing-boxes; premiums, and other expenses of recruiting; apprehending deserters; per diem pay to persons attending courts-martial and courts of inquiry, and other services authorized by law; pay to judges advocate; pilotage and towage of vessels, and assistance to vessels in distress; for bills of health, and quarantine expenses of vessels of the United States navy in foreign ports.	706,860 00	600,500 00	527,840 00
	7,966,233 00	7,093,898 00	6,272,938 00

No. 12.

General estimate of the sums required for the support of the marine corps for the fiscal year commencing on the first day of July, 1854, and ending on the thirtieth day of June, 1855.

Heads of appropriation.	Estimated for 1854–'55.	Estimated for 1853–'54.	Appropriated for 1853–'54.
For the pay of the officers, non-commissioned officers, musicians and privates, clerks, messengers, stewards, servants, &c., for rations and clothing for servants, subsistence and additional rations for five years' service of officers, for undrawn clothing and rations, bounties for re-enlistments, and pay for unexpired terms of previous service	$237,694 94	$223,530 44	$223,530 44
For provisions for marines serving on shore	29,984 75	29,984 75	29,984 75
For clothing	52,064 00	52,064 00	52,064 00
For fuel	14,194 50	14,194 50	14,194 50
For military stores, repairs of arms, pay of armorer, for accoutrements, ordnace stores, flags, drums, fifes, and musical instruments	8,000 00	8,000 00	8,000 00
For transportation of officers and troops, and expenses of recruiting	12,000 00	12,000 00	12,000 00
For repairs of barracks, and rent of temporary barracks and offices	6,000 00	6,000 00	6,000 00
For contingent expenses, viz: freight, ferriage, cartage, and wharfage; compensation to judges advocate; per diem for attending courts-martial and courts of inquiry; for constant labor; house rent, in lieu of quarters; burial of deceased marines; printing, advertising, stationery, forage, postage, pursuit of deserters, candles, oil, straw, furniture, bed sacks, spades, shovels, axes, picks, and carpenters' tools; expense of a horse for messenger; pay of matron, washerwoman and porter, for the hospital at headquarters	25,000 00	25,000 00	25,000 00
	384,938 19	370,773 69	370,773 69

No. 13.

General estimate of the sums required for special objects under the Navy Department for the fiscal year commencing on the first day of July, 1854, and ending on the thirtieth day of June, 1855.

Heads of appropriation.	Estimated for 1854–'55.	Estimated for 1853–'54.	Appropriated for 1853–'54.
For improvements and repairs at navy yards and stations	$1,425,261 00	$2,197,934 05	$1,059,500 00
For repairs of hospital buildings and their dependencies	40,051 00	56,493 93	54,393 93
For repairs of magazine buildings and their dependencies	141,974 00	17,235 00	17,235 00
For the pay of superintendents, naval constructors, and civil establishments of navy yards and stations	115,350 00	108,650 00	108,650 00
For nautical books, maps, charts, and binding; instruments, and repairs thereof; extension of west wing of Observatory building, and for iron fence, and all expenses of the Hydrographical office	84,010 00	51,900 00	51,900 00
For improvement and repair of buildings and grounds, and support of the Naval Academy at Annapolis, Maryland	53,768 00	84,059 00	84,059 00
For transportation of the mail	1,496,250 00	1,496,250 00	1,496,250 00
For preparing for publication the American Nautical Almanac	22,680 00	19,400 00	19,400 00
	3,379,344 00	4,031,921 98	2,891,387 93

No. 14.

TREASURY DEPARTMENT, FOURTH AUDITOR'S OFFICE,
October 10, 1853.

SIR: I have the honor to transmit herewith two copies of the abstract of the expenditures under the head of contingent expenses, as settled and allowed at this office, from the 1st of July, 1852, to the 30th of June, 1853.

I have the honor to be, sir, very respectfully, your obedient servant,
A. O. DAYTON.

Hon. J. C. DOBBIN,
Secretary of the Navy.

No. 14.—*Abstract of expenditures, under the head of "contingent expenses," as settled and allowed at the office of the Fourth Auditor of the Treasury, from July 1, 1852, to June 30, 1853, inclusive.*

No. of report.	Date.	Names.	Rank.	Contingent expenses.	Marine corps contingent expenses.	Purposes.
9628	July 6	McK. Buchanan	Purser	$9,156 69		Labor of mechanics, &c., at navy yard, New York, &c.
9630	8	Wm. Sloanaker	Navy agent	5,070 52		Travel, freight, stationery, &c.
9631	10	J. Y. Mason	Purser	2,301 27		Pilotage, funeral expenses, &c.
9632	14	D. Fauntleroy	do	50 00		Pilotage.
9633	14	W. Hindman	Acting purser	25 00		Apprehending deserters.
9638	16	W. L. Herndon	Lieutenant	6,871 25		Extra pay, &c., while surveying the Amazon.
9640	19	E. O. Perrin	Navy agent	3,292 56		Advertising, clerk hire, travel, &c.
9645	21	E. T. Dunn	Purser	7,038 96		Labor on rolls at navy yard, &c.
9648	23	J. H. Lathrop	Navy agent	11,070 75		Travel, stationery, advertising, &c.
9651	26	H. M. Heiskell	Purser	2,243 02		Labor on rolls, postage, &c.
9652	27	T. M. Taylor	do	2,306 03		Transportation of specie, travel, rent, &c.
9653	27	W. Hindman	Navy agent	765 55		Travel, &c.
9657	31	L. Warrington	Purser	3,483 91		Labor on mechanics' and watchmen's rolls, &c.
9658	Aug. 2	C. H. Ladd	Navy agent	1,758 85		Stationery, freight, travel, &c.
9660	3	B. D. Heriot	do	766 35		Travel, &c.
9663	9	R. M. Price	Late purser	6,840 80		Travelling expenses, office rent, &c.
9664	9	J. Follansbee	Chief engineer	468 10		Travel from California to New York.
9666	12	D. B. Wright	Navy agent	5,564 45		Travel, freight, advances, &c.
9668	14	F. G. McCauley	Purser	6,093 56		Mechanics' roll, labor, porterage, postage, &c.
9673	20	R. W. Cushman	Acting purser	235 16		Pilotage, postage, &c.
9675	24	J. H. Wright	Navy agent	8,641 63		Travel, freight, &c.
9679	28	W. Sloanaker	do	5,821 18		Advertising, freight, travel, &c.
9680	28	J. Cormick	Surgeon	521 50		Travelling expenses from New York to California.
9681	28	C. H. Wheelwright	Passed assistant surgeon	537 00		Travelling expenses from Boston to California.
9702	Sept. 9	Baring Brothers & Co.	Navy agents	6,518 08		Commissions, interest, &c.
9703	14	F. Mallory	do	8,809 56		Freight, travel, &c.
9706	16	E. McCall & Co.	do	4,691 20		Premium on dollars, postage, &c.
9710	21	D. B. Phillips	Assistant surgeon	550 00		Travel from California to New York.
9717	24	S. R. Knox	Acting purser	1,641 20		Pilotage.

No. 14.

TREASURY DEPARTMENT, FOURTH AUDITOR'S OFFICE,
October 10, 1853.

IR: I have the honor to transmit herewith two copies of the ract of the expenditures under the head of contingent expenses, as led and allowed at this office, from the 1st of July, 1852, to the 1 of June, 1853.

have the honor to be, sir, very respectfully, your obedient servant,
A. O. DAYTON.

Hon. J. C. DOBBIN,
Secretary of the Navy.

No. 14—Continued.

No. of report.	Date.	Names.	Rank.	Contingent expenses.	Marine corps contingent expenses.	Purposes.
9801	Dec. 10	C. H. Ladd	Navy agent	$2,509 63		Travel, advertising, stationery, &c.
9802	13	T. M. Taylor	Purser	1,031 58		Pilotage, apprehension of deserters, stationery, &c.
9804	15	J. D. Sloat	Captain	45 00		Travel.
9805	20	F. Mallory	Navy agent	9,450 02		Stationery, freight, travel, &c.
9807	23	C. Murray	Purser	8,157 19		Postage of Com. Morgan and others, pilotage, &c.
9808	24	B. D. Wright	Navy agent	2,739 80		Travel, advertising, &c.
9809	27	L. D. Slamm	Purser	2,669 44		Pilotage, postage, &c.
9810	Jan. 1	J. O. Bradford	....do	8,667 39		Labor on rolls of navy yard, &c.
9812	6	W. D. Hurst	Lieutenant	131 00		Travel.
9815	13	B. J. Cahoone	Purser	113 92		Postage, &c.
9831	27	F. B. McBlair	....do	6,079 88		Watchmen's and mechanics' rolls, postage, porterage, &c.
9834	Feb. 1	W. Hindman	Acting purser	20 00		Apprehending a deserter.
9835	2	.....do	Navy agent	2,901 37		Travel, stationery, advertising, &c.
9836	2	J. A. Fauns	Acting purser	100 60		Travel.
9840	3	J. W. Cook	....do	865 90		Towing ship, pilotage, travel, &c.
9842	5	J. H. Lathrop	Navy agent	9,290 05		Travel, advertising, &c.
9844	5	G. F. Cutter	Purser	20 95		Postage and transportation of specie.
9848	10	McK. Buchanan	....do	20,132 38		Labor on rolls, postage, &c.
9851	16	J. V. B. Bleeker	....do	2,756 55		Pilotage, postage, funeral expenses, &c.
9854	24	W. H. Le Roy	Navy agent	15,509 57		Freight, pilotage. stationery, &c.
9855	26	A. Bigelow	Commander	51 35		Commission to consul for purchases.
9856	26	J. G. McPheeters	Late naval storekeeper	4,086 23		Clerk hire, store and office rent, travel, &c.
9858	Mar. 1	A. H. Gillespie	Brevet major	1,785 38		Expenses in Mexico—special service.
9859	2	H. Mason	First assistant engineer	80 10		Travel to Erie.
9862	2	A. A. Nicholson	Quarterm'r marine corps		$5,667 94	Quarters for officers, forage, postage, &c.
9863	4	B. D. Wright	Navy agent	4,404 79		Travel, advertising, &c.
9864	7	C. Ap C. Jones	Lieutenant	230 83		Travel.
9866	9	W. Sloanaker	Navy agent	10,695 09		Freight, fuel, stationery, advertising, &c.
9867	9	J. H. Wright	....do	12,403 16		Pilotage, travel, &c.
9870	9	B. D. Herlot	....do	365 21		Travel, advertising, &c.

9720	29	J. De Bree	Purser	19,332 66	.....	Labor on rolls, postage, &c.
9725	Oct. 2	J. Wiley	Lieutenant marine corps	6 75	.....	Quarters.
9726	2	W. Hindman	Acting purser	10 00	.....	Apprehending a deserter.
9727	5	T. M. Taylor	Purser	417 54	.....	Travel, freight, pilotage, &c.
9729	6	Baring Brothers & Co.	Navy agents	4,666 47	.....	Commissions, interest, &c.
9731	7	H. M. Heiskell	Purser	2,175 89	.....	Labor on mechanics' and watchmen's rolls, &c.
9736	13	R. T. Allison	do	332 13	.....	Funeral expenses, boat hire, &c.
9737	13	W. Hindman	Navy agent	2,515 25	.....	Travel, freight, postage, &c.
9739	13	M. P. Jones	Passed midshipman	427 50	.....	Travel, California to ———.
9741	16	P. C. Johnson	do	23 00	.....	Mileage from Washington to Norfolk.
9742	19	J. Y. Mason	Purser	56 00	.....	Premium on American gold.
9743	20	J. C. Eldridge	do	418 95	.....	Postage, pilotage, &c.
9744	20	W. H. Le Roy	Navy agent	16,205 54	.....	Travel, advertisements, freight, &c.
9747	21	J. T. McLaughlin	Late lieutenant	214 50	.....	Travel.
9748	21	J. G. Heilman	Midshipman	23 00	.....	Do.
9749	23	J. R. Hamilton	Passed midshipman	108 70	.....	Do.
9750	25	W. Smith	Lieutenant commanding	432 38	.....	Coal, pilotage, postage, &c.
9751	25	H. Etting	Purser	599 90	.....	Paid to a judge advocate.
9753	28	D. Green	For boatswain	50 00	.....	Travel.
9754	Nov. 1	W. V. Taylor	Captain's clerk	500 00	.....	Do.
9757	2	G. F. Cutter	Purser	6 93	.....	Transportation of specie, and postage.
9758	2	J. D. Sloat	Captain	4,414 51	.....	Expenditures in California, &c.
9760	3	R. W. Meade	Lieutenant	1,192 60	.....	Travelling expenses.
9764	5	S. Forrest	Purser	8,112 53	.....	Labor on rolls at navy yard.
9766	6	J. H. Lathrop	Navy agent	14,297 11	.....	Travel, freight, postage, &c.
9767	10	S. P. Todd	Purser	5,412 25	.....	Labor on navy yard rolls, &c.
9776	13	C. Price	Lieutenant	512 50	.....	Travel.
9777	13	H. Sprague	Late consul	2,657 91	.....	Hulk rent, for coal, &c.
9778	13	do	do	1,292 50	.....	Storage of coal, commissions, &c.
9783	17	B. D. Heriot	Navy agent	364 51	.....	Pilotage, travel, &c.
9784	18	E. C. Hine	Late gunner	44 50	.....	Travel.
9786	20	L. Warrington	Purser	3,927 98	.....	Labor on navy yard rolls, &c.
9788	26	H. B. Sawyer	Commander	41 58	.....	Wood and postage.
9789	26	S. L. Phelps	Acting master	827 52	.....	Travelling expenses.
9790	27	J. B. Rittenhouse	Purser	783 36	.....	Travel, &c.
9793	30	E. O. Perrin	Acting purser	1,864 86	.....	Labor at navy yard, Memphis.
9794	30	do	Navy agent	2,010 45	.....	Advertising, travel, &c.
9799	Dec. 8	J. H. Wright	do	11,564 76	.....	Travel, freight, &c.
9800	9	N. White	Purser	6,415 85	.....	Pilotage, funeral expenses, travel, &c.

No. 14—Continued.

No. of report.	Date.	Names.	Rank.	Contingent expenses.	Marine corps contingent expenses.	Purposes.
9801	Dec. 10	C. H. Ladd	Navy agent	$2,509 63		Travel, advertising, stationery, &c.
9802	13	T. M. Taylor	Purser	1,031 58		Pilotage, apprehension of deserters, stationery, &c.
9804	15	J. D. Sloat	Captain	45 00		Travel.
9805	20	F. Mallory	Navy agent	9,450 02		Stationery, freight, travel, &c.
9807	23	C. Murray	Purser	8,157 19		Postage of Com. Morgan and others, pilotage, &c.
9808	24	B. D. Wright	Navy agent	2,739 80		Travel, advertising, &c.
9809	27	L. D. Slamm	Purser	2,669 44		Pilotage, postage, &c.
9810	Jan. 1	J. O. Bradford	....do	8,667 39		Labor on rolls of navy yard, &c.
9812	6	W. D. Hurst	Lieutenant	131 00		Travel.
9815	13	B. J. Cahoone	Purser	113 92		Postage, &c.
9831	27	F. B. McBlair	....do	6,079 88		Watchmen's and mechanics' rolls, postage, porterage, &c.
9834	Feb. 1	W. Hindman	Acting purser	20 00		Apprehending a deserter.
9835	2	.....do	Navy agent	2,901 37		Travel, stationery, advertising, &c.
9836	2	J. A. Fauns	Acting purser	100 60		Travel.
9840	3	J. W. Cook	....do	865 90		Towing ship, pilotage, travel, &c.
9842	5	J. H. Lathrop	Navy agent	9,290 05		Travel, advertising, &c.
9844	5	G. F. Cutter	Purser	20 95		Postage and transportation of specie.
9848	10	McK. Buchanan	....do	20,132 38		Labor on rolls, postage, &c.
9851	16	J. V. B. Bleeker	....do	2,756 55		Pilotage, postage, funeral expenses, &c.
9854	24	W. H. Le Roy	Navy agent	15,509 57		Freight, pilotage. stationery, &c.
9855	26	A. Bigelow	Commander	51 35		Commission to consul for purchases.
9856	26	J. G. McPheeters	Late naval storekeeper	4,086 23		Clerk hire, store and office rent, travel, &c.
9858	Mar. 1	A. H. Gillespie	Brevet major	1,785 38		Expenses in Mexico—special service.
9859	2	H. Mason	First assistant engineer	80 10		Travel to Erie.
9862	2	A. A. Nicholson	Quartern'r marine corps		$5,667 94	Quarters for officers, forage, postage, &c.
9863	4	B. D. Wright	Navy agent	4,404 79		Travel, advertising, &c.
9864	7	C. Ap C. Jones	Lieutenant	230 83		Travel.
[illegible]		[illegible]	[illegible]	[illegible]		Freight, fuel, stationery, advertising, &c.

9878	19	A. A. Harwood	Commander	251 00		Travel.
9879	23	T. M. Taylor	Purser	400 67		Travel and pilotage.
9880	25	J. A. Fawns	Acting purser	98 50		Travel.
9881	26	W. Hindman	do	25 00		Apprehension of deserters.
9887	April 1	H. M. Heiskell	Purser	4,474 50		Labor of mechanics, &c.
9892	6	W. Hindman	Navy agent	4,452 37		Travel, freight, stationery, &c.
9898	15	W. Sloanaker	do	11,902 07		Clerk hire, travel, &c.
9902	18	D. Walker	Purser	7,497 10		Labor on rolls, postage, &c.
9906	20	J. C. Douglass	do	1,703 10		Pilotage for "Fulton."
9907	22	do	Late purser	61 80		Cashing treasury draft, &c.
9908	23	J. R. T. Tattnall	Lieutenant marine corps	4 08		Quarters.
9909	25	J. H. Lathrop	Navy agent	20,452 41		Travel, advertising, &c.
9910	25	F. G. McCauley	Late purser	18 00		Pilotage.
9911	27	S. Forrest	Purser	6,120 01		Labor in navy yard, &c.
9921	28	A. A. Nicholson	Quarterm'r marine corps		5,367 72	Forage, postage, quarters, &c.
9922	30	W. H. Le Roy	Navy agent	17,952 53		Travel, commissions, &c.
9924	May 3	C. H. Ladd	do	4,686 84		Clerk hire, stationery, travel, &c.
9925	4	E. O. Perrin	do	6,759 83		Stationery, fuel, freight, &c.
9928	5	L. Warrington	Purser	5,909 50		Labor in navy yard, &c.
9929	7	D. Fauntleroy	do	6,120 57		Postage, labor, &c.
9931	9	J. M. Gilliss	Lieutenant	1,878 83		Travel, &c.
9932	10	B. D. Wright	Navy agent	5,452 76		Pilotage, freight, travel, &c.
9933	21	G. H. White	Purser	1,430 06		Recovering guns overboard, aid to ship, &c.
9935	25	L. Ashmun	Late purser	374 61		Pilotage, postage, &c.
9936	31	W. G. Temple	Passed midshipman	124 50		Travel.
9937	June 4	F. P. McBlair	Purser	1,061 82		Labor at navy yard, &c.
9938	11	J. Bryan	do	178 08		Apprehending deserters, pilotage, &c.
9941	15	E. O. Perrin	Acting purser	3,620 83		Labor at navy yard, &c.
9947	25	McK. Buchanan	Purser	13,362 70		
				501,095 56	11,035 66	

A. O. DAYTON.

TREASURY DEPARTMENT, *Fourth Auditor's Office, October* 10, 1853.

STATEMENT—Continued.

Heads of appropriations.	Balances of appropriations July 1, 1852.	Appropriations for the fiscal year 1852–53.	Repayments from July 1, 1852, to June 30, 1853.	Amounts applicable to the service of the fiscal year 1852–'53.	Amounts drawn by requisitions from the treasury during the fiscal year 1852–'53.	Balances June 30, 1853.
Surgeons' necessaries and appliances	$27,308 94	$37,600 00	$5,604 79	$70,513 73	$54,679 65	$15,834 08
Naval School at Annapolis	368 25	124,700 00	1,886 79	126,955 04	70,547 18	56,407 86
Meteorological observations	1,000 00	4,000 00	.....	5,000 00	5,000 00	.....
Nautical Almanac	8,331 00	19,400 00	.....	27,731 00	23,436 00	4,295 00
Prize money to captors in war with Mexico	41,135 32	.....	245 50	41,380 82	2,000 00	39,380 82
Hospital at Boston	1,967 33	500 00	163 74	2,631 07	1,288 60	1,342 47
Hospital at New York	30,409 28	13,993 00	.....	44,402 28	*19,504 50	24,897 78
Hospital at Philadelphia	10,838 00	5,666 00	760 00	17,264 00	†10,838 00	6,426 00
Hospital at Washington	333 00	400 00	.....	733 00	‡333 00	400 00
Hospital at Norfolk	2,480 90	5,000 00	.....	7,480 90	5,162 48	2,318 42
Hospital at Pensacola	7,501 10	2,000 00	2,989 97	12,491 07	10,991 00	1,500 07
Books, maps, &c., of hydrographic office	16,768 66	49,470 00	10,497 37	76,736 03	48,578 93	28,157 10
Steam mail service	381,903 44	1,732,750 00	.....	2,114,653 44	1,564,933 61	549,719 83
Dry dock, Portsmouth, N. H.	151,192 35	.....	23 22	151,215 57	‖151,215 57	.....
Dry dock, Philadelphia	149 31	5,933 68	3,836 93	9,919 92	6,599 97	3,319 95
Dry dock, Pensacola	249,711 09	.....	.....	249,711 09	§249,711 09	.....
Dry dock, California	2,950 00	360,000 00	.....	362,950 00	338,550 00	24,400 00
Navy magazine, Boston	498 63	200 00	.....	698 63	¶498 63	200 00
Navy magazine, New York	1,358 48	1,000 00	13 51	2,371 99	**1,358 48	1,013 51
Navy magazine, Washington	1,600 00	150 00	.....	1,750 00	‡1,600 00	150 00
Navy magazine, Norfolk	2,422 42	.....	.....	2,422 42	††2,422 42	.....
Examining various condensers	160 84	.....	.....	160 84	‡160 84	.....
Investigating alimentary substances	.....	2,500 00	.....	2,500 00	2,000 00	500
Mexican hostilities	24,843 06	.....	1,313 44	26,156 50	‡‡26,156 50	.....
Military contributions in Mexico	8,196 48	.....	.....	8,196 48	7,042 76	1,083 72

Statement of the appropriations for the service of the Navy Department, from July 1, 1852, to June 30, 1853; made in pursuance of the provisions of the second section of the act of Congress of May 1, 1820, entitled "An act in addition to the several acts for the establishment and regulation of the Treasury, War, and Navy Departments."

Heads of appropriations.	Balances of appropriations July 1, 1852.	Appropriations for the fiscal year 1852–'53.	Repayments from July 1, 1852, to June 30, 1853.	Amounts applicable to the service of the fiscal year 1852–'53.	Amounts drawn by requisitions from the treasury during the fiscal year 1852–'53.	Balances June 30, 1853.
Pay of the navy	$193,194 15	$2,771,698 00	$264,123 26	$3,229,015 41	$3,228,169 84	$845 57
Provisions of the navy	374,863 27	686,200 00	24,110 78	1,085,174 05	750,802 60	334,371 45
Contingent expenses	6,690 68	527,840 00	30,364 68	564,895 36	564,831 99	63 37
Pay of superintendents, &c	19,153 65	90,960 00	1,876 63	111,990 28	89,853 16	22,137 12
Contingent expenses not enumerated	174 60	.....	.....	174 60	*174 60	.....
Increase, repairs, &c	545,010 38	1,798,520 22	423,429 97	2,766,960 57	2,724,036 97	42,923 60
Navy hospital fund	177,846 99	.....	29,325 80	207,172 79	56,467 07	150,705 72
Navy yard, Portsmouth, N. H	8,414 16	35,041 23	.....	43,455 39	26,976 00	16,479 39
Navy yard, Boston	24,296 94	28,100 00	4,916 99	57,313 93	32,546 00	24,767 93
Navy yard, New York	23,587 54	222,106 95	6,224 88	251,919 37	225,713 78	26,205 59
Navy yard, Philadelphia	16,273 19	40,517 20	509 95	57,300 34	29,919 96	27,380 38
Navy yard, Washington	23,829 84	123,778 00	11,499 13	159,106 97	107,110 00	51,996 97
Navy yard, Norfolk	5,040 18	80,732 20	1,100 19	86,872 57	64,474 19	22,398 38
Navy yard, Pensacola	24,771 49	88,044 00	5,014 27	117,829 76	102,717 86	15,111 90
Navy yard, Memphis	31,352 08	47,043 34	4,011 31	82,406 73	49,916 53	32,490 20
Navy yard, Sackett's Harbor	649 52	500 00	73 37	1,222 89	1,222 89	.....
Navy yard at San Francisco	.....	100,000 00	4,987 07	104,987 07	90,778 07	14,209 00
Depot at New Orleans	6,480 00	.....	.....	6,480 00	*6,480 00	.....
Plans of buildings at Naval Depot, New Orleans	90 00	.....	.....	90 00	*90 00	.....
Clothing of the navy	590,661 07	.....	148,094 86	738,755 93	103,621 42	635,134 51

* Carried to the surplus fund.

STATEMENT—Continued.

Heads of appropriations.	Balances of appropriations July 1, 1852.	Appropriations for the fiscal year 1852-'53.	Repayments from July 1, 1852, to June 30, 1853.	Amounts applicable to the service of the fiscal year 1852-'53.	Amounts drawn by requisitions from the treasury during the fiscal year 1852-'53.	Balances June 30, 1853.
Surgeons' necessaries and appliances	$27,308 94	$37,600 00	$5,604 79	$70,513 73	$54,679 65	$15,834 08
Naval School at Annapolis	368 25	124,700 00	1,886 79	126,955 04	70,547 18	56,407 86
Meteorological observations	1,000 00	4,000 00	.....	5,000 00	5,000 00	.....
Nautical Almanac	8,331 00	19,400 00	.....	27,731 00	23,436 00	4,295 00
Prize money to captors in war with Mexico	41,135 32	.....	245 50	41,380 82	2,000 00	39,380 82
Hospital at Boston	1,967 33	500 00	163 74	2,631 07	1,288 60	1,342 47
Hospital at New York	30,409 28	13,993 00	.....	44,402 28	*19,504 50	24,897 78
Hospital at Philadelphia	10,838 00	5,666 00	760 00	17,264 00	†10,838 00	6,426 00
Hospital at Washington	333 00	400 00	.....	733 00	‡333 00	400 00
Hospital at Norfolk	2,480 90	5,000 00	.....	7,480 90	5,162 48	2,318 42
Hospital at Pensacola	7,501 10	2,000 00	2,989 97	12,491 07	10,991 00	1,500 07
Books, maps, &c., of hydrographic office	16,768 66	49,470 00	10,497 37	76,736 03	48,578 93	28,157 10
Steam mail service	381,903 44	1,732,750 00	.....	2,114,653 44	1,564,933 61	549,719 83
Dry dock, Portsmouth, N. H.	151,192 35	.....	23 22	151,215 57	‖151,215 57	.....
Dry dock, Philadelphia	149 31	5,933 68	3,836 93	9,919 92	6,599 97	3,319 95
Dry dock, Pensacola	249,711 09	.....	.....	249,711 09	§249,711 09	.....
Dry dock, California	2,950 00	360,000 00	.....	362,950 00	338,550 00	24,400 00
Navy magazine, Boston	498 63	200 00	.....	698 63	¶498 63	200 00
Navy magazine, New York	1,358 48	1,000 00	13 51	2,371 99	**1,358 48	1,013 51
Navy magazine, Washington	1,600 00	150 00	.....	1,750 00	‡1,600 00	150 00
Navy magazine, Norfolk	2,422 42	.....	.....	2,422 42	††2,422 42	.....
Examining various condensers	160 84	.....	.....	160 84	‡160 84	.....
Investigating alimentary substances	.....	2,500 00	.....	2,500 00	2,000 00	500
Mexican hostilities	24,843 06	.....	1,313 44	26,156 50	‡‡26,156 50	.....
Military contributions in Mexico	8,196 48	.....	.....	8,196 48	7,042 76	1,083 72

Suppression of the slave trade	413 06			413 06	† 413 06	
Purchase of marine paint, patent		1,500 00		1,500 00	993 00	507 00
Coal depôt at Key West		20,000 00		20,000 00		20,000 00
Survey of the coast from Apalachicola bay to Mississippi		3,274 72		3,274 72	2,926 54	348 18
Additional pay to officers and men of the Arctic expedition		16,058 86		16,058 86	16,058 86	
Extra pay to officers serving in Pacific ocean		687,052 43	66,588 38	753,640 81	753,640 81	
Relief of widows, &c., of officers, &c., of brig Washington, act February 3, 1853		2,160 00		2,160 00	2,160 00	
Relief of widows, &c., of officers, &c., of brig Epervier, act March 3, 1817		72 00		72 00	72 00	
Relief of Gustavus A. De Russy, act July 21, 1852		362 00		362 00	362 00	
Relief of Commander Z. F. Johnson, act August 31, 1852		1,700 00		1,700 00	1,700 00	
Relief of Jacob G. Storer, act January 25, 1853		1,361 82		1,361 82	1,361 82	
Relief of William Speiden, purser; act January 13, 1853		4,495 18		4,495 18	4,495 18	
Relief of Alexander T. P. Garnett, act February 3, 1853		166 10		166 10	166 10	
Relief of Louis M. Goldsborough and others, act March 3, 1853		9,961 67		9,961 67	9,961 67	
Relief of Harlow Spaulding, act March 3, 1853		3,671 01		3,671 01	3,671 01	
Relief of Ward & Smith		1,986 84		1,986 84	1,986 84	
Relief of legal representatives of Walter Colton, act March 3, 1853		7,865 33		7,865 33	7,865 33	
Relief of Philo Smith, act January 22, 1853		19 96		19 96	19 96	
Payment for property destroyed by burning of the navy yard of Washington in 1814, act March 3, 1853		750 00		750 00	225 00	525 00
Pay of marine corps	37,130 74	217,963 44	35,037 86	290,152 04	271,912 36	18,239 68
Provisions, marine corps	3,023 09	19,984 75	3,636 90	26,644 74	24,555 84	2,088 90
Clothing, marine corps	313 87	49,416 00	4,911 80	54,641 67	54,641 67	
Contingent expenses, marine corps	99 11	25,000 00		25,099 11	25,099 11	
Fuel, marine corps	6,028 34	3,000 00	17 38	9,045 72	9,045 72	

* $5,000 of this sum carried to civil list.
‖ $2,900 85 carried to surplus fund.
** $631 32 carried to surplus fund.

† $2,442 42 carried to surplus fund.
§ $11,119 13 carried to surplus fund.
†† $2,068 42 carried to surplus fund.

‡ Carried to surplus fund.
¶ $480 63 carried to surplus fund.
‡‡ $1,313 44 carried to surplus fund.

STATEMENT—Continued.

Heads of appropriations.	Balances of appropriations July 1, 1852.	Appropriations for the fiscal year 1852–'53.	Repayments from July 1, 1852, to June 30, 1853.	Amounts applicable to the service of the fiscal year 1852–'53.	Amounts drawn by requisitions from the treasury during the fiscal year 1852–'53.	Balances June 30, 1853.
Transportation, marine corps	$10 50	$9,000 00	$13,683 50	$22,694 00	$22,694 00	.....
Military stores, marine corps	28	8,000 00	50 95	8,051 23	8,051 23	.....
Repairs of barracks, marine corps	.....	6,000 00	529 62	6,529 62	6,529 62	.....
Total	3,092,756 60	10,107,185 93	1,111,454 79	14,311,397 32	12,091,120 87	2,220,276 45

RECAPITULATION.

Amount applicable to the service of the fiscal year 1852–'53, as per aggregate of fourth column		$14,311,397 32
From which deduct amount of refunding and transfer requisitions, as per third column		1,111,454 79
Will show the amount applicable to the above period		13,199,942 53
From which deduct amount drawn by requisitions from the treasury, as per aggregate of fifth column	$12,091,120 87	
From which last sum deduct amount drawn by refunding and transfer requisitions, as per third column	1,111,454 79	
		10,979,666 08
Will leave the aggregate of the sixth column of balances on June 30, 1853		2,220,276 45

TREASURY DEPARTMENT, *Second Comptroller's Office, August* 15, 1853.

T. PURRINGTON, *Acting Comptroller.*

REPORT

OF

THE POSTMASTER GENERAL,

DECEMBER 1, 1853.

REPORT OF THE POSTMASTER GENERAL.

POST OFFICE DEPARTMENT,
December 1, 1853.

SIR: The whole number of post offices in the United States at the close of the last official year, June 30, 1853, was 22,320. Of this number, 255 are of the highest class, the postmasters at which are appointed by the President. At the present date, (1st December, 1853,) the total number of post offices is twenty-two thousand six hundred and eighty-eight. During the past year, commencing 1st July, 1852, 1,898 post offices were established, 479 were discontinued; and there were appointed to office during said year, besides the 1,898 postmasters to the newly established offices aforesaid, 3,850 upon resignation, 225 death, 182 change of site, 91 where the postmaster had moved away, and 2,321 on removal of prior incumbent, being 8,567 postmasters appointed during the year ending 30th June, 1853.

At the close of the fiscal year ending on the 30th day of June last, there were in operation within the United States 6,692 mail routes; their aggregate length was 217,743 miles, and 5,583 contractors were employed thereon.

The annual transportation of the mails on those routes was 61,892,542 miles; the annual cost thereof, $4,495,968; being about seven cents two mills per mile.

Of these 61,892,542 miles of annual transportation, 12,986,705 miles are required to be performed on railroads, at a cost of $1,601,329, being about twelve cents three mills per mile; 6,685,065 miles in steamboats, at a cost of $632,368, being about nine cents four mills per mile; 21,330,326 miles in coaches, at a cost of $1,206,958, being about five cents six mills per mile; and 20,890,446 miles in modes not specified, at a cost of $1,055,313, being about five cents per mile.

The inland service at the close of the last fiscal year, when compared with the service at the close of the preceding year, shows an increase of 3,459 miles in the length of mail routes; of 2,906,814 in the number of miles of annual transportation; and of $555,997 in the annual cost of transportation.

Of such increase of transportation, the railroad and steamboat service amounts to 2,235,593 miles, at an increased cost of $452,362, being an increase of $12\frac{82}{100}$ per cent. in the transportation, and about $25\frac{39}{100}$ per cent. in the aggregate cost; the coach service to 631,396 miles, at an increased cost of $77,972, being an increase of about $3\frac{1}{10}$ per cent. in transportation, and $6\frac{9}{10}$ per cent. in aggregate cost; and the transportation in modes not specified to 39,825 miles, at an increased cost of $25,663, being an increase of about $1\frac{43}{100}$ per cent. in transportation, and $2\frac{49}{100}$ per cent. in the aggregate cost.

The annual transportation in California, (included in the foregoing estimate,) at the close of the fiscal year, was 585,806 miles, at a

annual cost of $143,214; being an increase within the year of 95,817 miles, or 19 83/100 per cent. of annual transportation, and $14,334 or 11 12/100 per cent. in the cost thereof.

The annual transportation in Oregon at the close of the fiscal year was 108,274 miles, at an annual cost of $45,522, or about forty-two cents per mile.

Of this service, 17,278 miles is performed in steamboats, at an annual cost of $17,000, and the residue of 90,996 miles in modes not specified, at a cost of $28,522, or about thirty-one cents and three mills per mile.

There should be added to the other cost of transportation, as above stated, the compensation of route agents, $165,224 55; mail messengers, $56,334 05; and local agents, $11,498 40; making in all $233,057 additional, including the pay to agents on the foreign routes.

In table attached to the report of the second assistant Postmaster General, marked D, the length of railroad service will be seen, and the prices respectively paid to each company. The sums paid to these railroad companies are fixed under the acts of July 7, 1838, January 25, 1839, and March 3, 1845. Under the last-mentioned act, it is made the duty of the Postmaster General to arrange and divide the railroad routes into three classes, and to pay them according to the size of the mails, the speed with which they are conveyed, and the importance of the service. Considerable difficulty has always existed with this branch of the service. Sums are demanded from the department, which, in justice to great public interests, it cannot consent to pay. The importance of the service to the public is the great question of consideration for the head of the department; but if he and the presidents and managers of the railroad companies do not view its importance alike, the mail is thrown down, and the public caused thereby most grievously to suffer. This is done sometimes, too, in the most summary manner, without any notice being given by which the department could be prepared to put on other service; and when this is done, whether designedly or not, the department is sure to suffer. The citizens of the different States are deeply interested in this question; and if they wish to continue to receive their letters and newspapers at a cheap rate of postage, they must not permit these companies to dictate to the department their own terms. In some of the States of the Union a provision has been inserted in the charters of the railroad companies, providing for a reference in case of a disagreement between the Postmaster General and the companies. In neither of the acts which I have cited is any power given to the Postmaster General to agree to any such reference; and if there were, I should very much doubt its policy. In England, this agreement to refer has acted unfavorably to the government; and I see no reason why Congress, first giving each company a full opportunity of being heard, should not fix the sum which they are each respectively to receive.

In England, also in France and in the other continental States, the times for arrivals and departures are so fixed by the post office departments, as best to suit the public interests.

In our own ordinary mail contracts, the time for arrival and departure is entirely subject to the order of this department, by which it is

enabled to maintain an unbroken link of connexion: but in the great majority of cases, though contracts have been drawn and submitted to railroad companies, they have not chosen to sign them. The consequence has been, that though receiving the pay, they may be said to be entirely beyond the control of the department, and the public interests have thereby greatly suffered. After entering upon my duties as head of the department, complaints were made of the insufficiency of the mail cars, and the want of proper accommodations; and so glaring were these defects in some instances, that the mail agents were unable properly to discharge their duties, now becoming daily more important, owing to the increase of the way distributions.

To remedy this evil, I had prepared a model of a mail car, which I had transmitted to the presidents of the different railroad companies; but in very few instances have my wishes been complied with. In those cases where the contracts give me the power to build a mail car when the one in use was unsuited to the purposes, I have ordered it to be done and the cost charged to the companies; but in that class of cases in which they have declined becoming parties to any contract, I am remediless.

While such have been some of the difficulties which the department has had to encounter with these railroad companies, that service, with its necessary attendants—mail agents and mail messengers—has absorbed more than one-third of the entire revenues derived from postages.

On the 30th of September last, there were in operation within the United States 202 railroad routes; their aggregate length was 13,410$\frac{3}{4}$ miles, and the cost of mail transportation thereon, $1,645,432 33; being at the rate of 120.26\frac{7}{100}$ per mile. Include the pay of mail messengers, route and local agents, the whole expense of this service is increased to $1,869,264 78, or 139.38\frac{6}{10}$ per mile.

On estimating other kinds of service in the same manner upon the aggregate length of routes, it is discovered that the average cost of steamboat service is $34 45 per mile, coach service $22 88 per mile, and of modes not specified, $7 86 per mile.

Such being the condition of this branch of the service, and the prices paid for it, the attention of Congress is particularly requested to this subject.

By the 11th section of the act of Congress establishing post roads, &c., approved August 31, 1852, it was made "the duty of the Postmaster General to issue proposals and contract for the transportation of a daily mail between Louisville and Cairo, St. Louis and Cairo, Cairo and Memphis, and Memphis and New Orleans, and to supply such intermediate points as he may order from time to time on suitable and safe steamboats."

In compliance with the provisions of this law, an advertisement was prepared with much care by my predecessor, dated December 31, 1852, and published in the papers of Washington, New York, Pittsburg, Cincinnati, Louisville, St. Louis, Memphis, Little Rock, and New Orleans, inviting proposals for a daily express line between Louisville and New Orleans, touching at seven points, and running down in six days and up in seven; and also for way-lines between Louisville *and Evansville, Evansville* and Cairo, Cairo and Memphis, Memphis

and Napoleon, Napoleon and Vicksburg, Vicksburg and St. Francisville, St. Francisville and New Orleans, to be run in close connexion and supplying intermediate offices; and also a connecting line between St. Louis and Cairo.

The notes appended to this advertisement provided that the mails must be conveyed in "safe and suitable steamboats" of the very best class; that they should carry the mails and passengers only; that the whole number required for the service must be provided before the contract would be considered as commenced; that they would be subject to a rigid inspection by agents appointed by the department; that none could be withdrawn without the consent of the department, and no new ones admitted without the like inspection and assent.

Bidders in preparing and submitting their proposals, individuals in consenting to become guarantors, and postmasters in certifying to their sufficiency, were requested to bear in mind that the object of Congress in enacting the law, and of the department in executing it, was to obtain reliable and regular lines of mail-packets on these waters, arriving and departing at fixed times at the principal points all the year round, and that a strict compliance with the contract obligations would be demanded.

Under this advertisement several proposals were received, the lowest of which was that of Glover and Mather, of Louisville, at $450,000 a year for the whole service between Louisville and New Orleans; and of J. E. Caldwell, at $40,000 for the line between St. Louis and Cairo; and these proposals were accepted by my predecessor on the 1st of March, 1853.

Soon after assuming the charge of the department, my attention was directed to this matter, and doubts arose whether the service called for by the accepted proposal was not only more than was intended by Congress, but also more than was required by the public convenience. Being satisfied on these points, and the accepted bidders between Louisville and New Orleans having waived the acceptance of their proposal, an order was made on the 20th May last to contract with the same persons for the daily express line between Louisville and New Orleans in seven days each way, and for additional daily way-lines between Louisville and Evansville, Evansville and Cairo, and St. Francisville and New Orleans, and at the compensation of $297,975 per year, being the aggregate amount of the lowest bids for the same service separately. This contract has since been executed, with sureties believed to be amply sufficient, and is to take effect on the 1st of December current, and to expire on the 30th June, 1857.

The contract of J. E. Caldwell for the St. Louis and Cairo line, at $40,000 a year, is also executed, to commence and terminate at the same time. At my request the Secretary of the Treasury detailed two inspectors of steamboats, appointed under the law of August 30, 1852, to act in conjunction with a special agent of this department in the examination of the steamboats presented by the contractors for this duty, who have received instructions to accept none which do not conform in all respects to the requirements mentioned in the contract and advertisement, and which will receive the mails and passengers only, excluding all articles of freight.

The subject of failures on the great northern and southern mail line between New York and New Orleans is one of absorbing public interest. It has had a place in former reports of this department, and has also claimed the special attention of Congress. During the winter and spring months, especially, embracing the active business portion of the year, the service has been of the most unsatisfactory character, and the efforts of the department to improve it have been almost fruitless.

The steamboat route between Wilmington, North Carolina, and Charleston, South Carolina, is one on which it is well known a large proportion of failures occur, notwithstanding the most persevering efforts to prevent them. The difficulties to be encountered are of a character so well understood as not to require particular explanation. The trips of the boats are necessarily affected by wind and weather, and also by the tides, especially at the mouth of Cape Fear river, so that regular conformity to any given schedule of departures and arrivals is hardly to be expected.

Under such circumstances it is matter of congratulation that a land route is rapidly approaching completion, which will supersede the present one by sea, with all its attendant difficulties.

The late Postmaster General's report referred to the probable employment within this year of the Wilmington and Manchester railroad for conveying the great northern and southern mail. But twelve miles now remain unfinished, and arrangements have been made to transfer the great mail from the steamboats as soon as possible, and to convey it in coaches for the short distance stated until the railroad is completed, which it is hoped will be by the first day of January next, after which time much more regular and expeditious service may confidently be expected on this portion of the New York and New Orleans mail line.

There is, however, between Montgomery and Stockton, Alabama, another portion upon which delays and irregularities have been occurring to an extent equalling those on the sea-route above referred to, although arising from quite different causes.

One daily line of coaches has heretofore been provided, running (in connexion with a steamboat between Mobile and Stockton) over a natural road of 160 miles in length, frequently liable to obstructions from high water and other causes, and not kept in good repair, traversing, as it does, a sparsely populated section of country. Such mode of conveyance, upon such a road, has been found entirely inadequate for the vast accumulation of mails at Montgomery, conveyed thither from Boston, New York, and other cities, along the whole extent of that great line.

Considering the increase in the amount of mail matter of all descriptions, especially printed matter, the transmission of bound volumes and other public documents printed by order of Congress, increasing as they do from year to year, and of all the matter from the several executive departments of the general government, also rapidly increasing in quantity, and in view of the fact, also, that all the mails for Mobile, New Orleans, and beyond, thus accumulated by contributions from Boston to Montgomery, are conveyed to the latter point by railroads and steam boats, especially the former, it is a matter of surprise that they have

been forwarded by one daily coach in a manner at all approaching regularity.

These facts rendered most imperative the necessity of providing immediately more adequate means of conveyance; and accordingly, on the 18th October last, a second daily line of four-horse coaches was ordered between Montgomery and Stockton, Alabama, to connect with the steamboat line between Stockton and Mobile, with the stipulation that the contractors should furnish vehicles of sufficient capacity to convey whatever mail may be daily received at Montgomery or Stockton, and that the steamboat employed between Stockton and Mobile should be of sufficient size, structure and fitness for the regular navigation of the Tensaw river, and be under the entire and exclusive control of the contractors, so that no breaches of connexion should occur by reason of any other persons having a right to interfere with its arrivals and departures.

The compensation allowed for this additional service is $24,000 per annum, being one-third less than pro rata of the present pay, with the agreement that if the service shall be well and faithfully performed, the extension of the contract on the same conditions, over the succeeding term of four years, commencing 1st July, 1854, will be recommended to Congress; and should Congress decline to authorize such extension, the rate of additional pay shall be raised to $30,000 per annum, still one-sixth less than pro rata, for the residue of the existing term.

It was further stipulated that the contractors, by the 1st November, 1853, should place on the route a full additional every-other-day line, and double the road if necessary, to carry off all the mail matter every day, and by the 15th December a full additional daily line; the increased compensation to commence, in case of a faithful compliance with these terms, on the 1st November.

The terms of this agreement are favorable in view of the great public benefits expected to result therefrom.

The stipulation as to this extension of the contract is reasonable and proper, because the present contract expires on the 30th June next, and the contractors could not be expected to provide, at great expense, all the additional stock necessary for a second line, for seven or eight months only, without some guarantee against loss in case of being underbid in the competition at the next letting of contracts, the existing laws not providing, as was formerly the case, that new contractors shall purchase the stock of those superseded.

To secure certain important benefits to the mail service, similar extensions were some years since authorized, by resolutions of Congress, on routes from Washington city to Aquia creek, and New Orleans to Mobile.

It is believed that hereafter the service between Montgomery and Mobile will thus be freed from the irregularities by which it has heretofore been characterized, and that it will be performed to the satisfaction both of the public and this department.

This improvement, together with that on the Wilmington and Manchester railroad, will place the great northern and southern mail line in such condition, throughout its entire length, as to encourage the expectation that mails during the ensuing winter, and thereafter, will be con-

veyed with a degree of certainty and regularity heretofore entirely unknown.

Our local mail service on the Pacific is strongly marked by two peculiarities, especially in California—very high prices, and great difficulty in giving that people the mail facilities which they require. At the same time, it appears from the reports that the performance of the service under the contracts is characterized by fidelity and energy, qualities which are put in great requisition by the flooded state of the roads at particular seasons of the year.

The present cost of transportation in steamboats in California is about thirteen cents eight mills per mile, in coaches about twenty cents per mile, and in modes not specified about thirty-four cents six mills per mile; while the cost of similar service in the United States, excluding Oregon, New Mexico, and Utah, is in steamboats about nine cents per mile, in coaches about five cents and five mills per mile, and in modes not specified about four cents and seven mills per mile.

These mail prices, however, are not out of scale with those of labor, living, and commodities generally, in that region of country.

The most striking discrepancy appears, on comparing these prices which the government pays in California with those which it receives for the same work—I mean the rates of postage. The one is graduated to the highest scale of prices, and the other to the lowest. For a single letter of half an ounce the department receives six cents when prepaid, and ten cents when unpaid; and for each pound of printed matter, which comprises a very large proportion of the contents of the mails, about five cents a pound, the cost to the department for transportation across the isthmus alone being twenty-two cents a pound. The necessary consequence is, that the cost of mail service in California greatly exceeds the revenue it yields.

And notwithstanding the government incurs a heavy unrefunded expenditure in supplying the citizen of that State with his letters, newspapers, and other mail matter, the citizen himself employs other facilities for the conveyance of his letters, and pays therefor at a rate from twenty to forty-fold greater than the government charges for similar service.

The facilities referred to are the expresses. Government has not been able to keep pace in its organized mail arrangements with the movements of the miner. His settlement is suddenly made and rapidly extended long before the mail contractor and postmaster can be provided. The expressmen are at hand, and the wants of the miner are immediate. His orders are all sent by them to the central post office, to which, not knowing where his eventual location will be in the gold region, he has directed his letters to be addressed. The postmaster has favored the expressman in the prompt delivery of his letters, and has received in return a compensation much larger, per letter, than any commission ever allowed him by the government. The express charge is one dollar per letter, two dollars, and so on, rising in some instances to five dollars, according to distance. Once commenced, the habit of the miner of relying on the expresses is continued long after the post office and the mail-route have reached his neighborhood.

Different influences combine to produce this result. The principal

one, as is alleged, is the utter failure or refusal of the central postmaster, at whose office his letters come from the States, to forward them to the mail.

In respect to the vicious practices at the large offices in California, which have so much retarded the use of the mails and encouraged the employment of expresses, the present incumbents of those offices have been specially instructed, and have given the assurance, that they shall be discontinued.

Much confusion is found to exist in the arrangement and operation of the offices in California. Several appear to be in operation that were never established by the Postmaster General; and a general misunderstanding prevails among postmasters as to the restrictions imposed by law upon their expenditures in respect to office rent, clerk hire, &c. These things have all been brought to the attention of the special agent of this department, who has been instructed specially in relation to them, and instructed to report; and this leads me to the consideration of the defective nature of the agency provided for that remote section of the Union. An agency of higher functions than those of a mere special agent should be provided for the charge and supervision of the entire mail service on the Pacific. This officer should be of the grade of Assistant Postmaster General, and should receive a salary equal to those received by officers of a similar grade in California. Under the charge of a faithful and able officer of this description, the routes could be let to contract at less cost to the department, and more efficient contractors obtained, than under the present system; he, however, only to have the power to receive the bids and pass upon them preliminarily.

The dead letters, instead of being sent back to Washington, as they now are, at much expense to the department, could be opened by him, and only such letters returned to the General Post Office as contained moneys, documents, or other valuable enclosures. Such an officer, too, would give assurance to the government and the country that the proper control over the offices and affairs of the department was exercised, that proper postmasters were selected, and that the mail arrangements were adjusted in a skilful and upright manner, suitable to the wants and requirements of that active and energetic people.

Congress at its last session appropriated $50,000 for mail depredations and special agents. In order to keep myself, as much as possible, within the appropriation, I appointed eighteen agents, to one of whom was assigned California, to another Oregon and Washington Territories, and to a third the State of Texas. There were three appointed at large, stationed at New York, Louisville, and Washington, and the remaining twelve were distributed among the different States.

To these special agents the department must look for much of the local information necessary to enable it to determine what service is required in the different States, and how the service is performed. It is an important part, also, of their duties to see that the postmasters properly perform their duties, and report a want of ability, attention, or fidelity on their part, or on that of contractors, promptly to the department.

If inefficient or neglectful of their duties, the public and the department must suffer; but in order to make them truly useful, too much

ory must not be assigned them. A most important part of their is that connected with depredations. The citizen who intrusts oneys in the mails should have every assurance given him that his rty will be properly cared for, and that if it be abstracted or l, every exertion will be made by the government to restore it to and bring the offender to justice. To perform these duties in a actory manner, more agents are necessary, and they should be ed into two classes. To one class should be assigned the super- of the transportation of the mails, and business connected with ppointment and contract offices; and to the other class, all mat- onnected with mail depredations.

der the present system it very frequently and necessarily happens vhen an agent is wanted for important transportation duties, he a distant section of the country attending to depredations.

e expenditures of the department during the last fiscal year, as by the Auditor, amounted to $7,982,756 59, viz:

ensation to postmasters	$1,406,477 05
ional compensation, by act March 3, 1851	414,525 10
steamboat, and way letters	23,105 83
portation	4,906,308 05
ping paper	41,453 94
furniture	3,241 50
tising	79,346 00
ags	49,308 53
s	71,056 22
ocks, keys, and stamps	14,733 80
nail locks and keys	18,935 54
lepredations and special agents	55,275 43
for offices (the offices of postmasters)	509,820 24
l letters received by postmasters	472 41
ge stamps	3,864 50
ed envelopes	10,391 03
ffice laws, lists, &c	1,670 00
ment for dead letters	34 26
nts to letter-carriers	113,017 73
ge stamps returned, old issue	68 05
s on hand overcharged	85 90
laneous payments	116,408 31
laneous, account of British postages	139,592 08
laneous, account of Bremen postages	3,565 09
	7,982,756 59

gross revenue of the year from all sources amounted to ,724 70, viz:

postage, including foreign postage and stamps	$4,473,227 25
apers and pamphlets	611,333 42
	82 50
ment *accounts of* postmasters	38,386 01

Dead letters	$45
Damages from failing contractors	1,384
Letter-carriers	113,017
Miscellaneous receipts	3,248
Annual appropriations from the treasury in compensation of mail services performed for the government	700,000
	5,940,724

It appears from the foregoing statements that the gross revenue of the year ending June 30, 1853, fell short of the expenditures during the year by the sum of $2,042,031 89.

The foregoing deficiency should be diminished by the sum of $53,504 48, due the United States to the 30th June, 1853, under the postal convention with Prussia, and increased by the quarterly balances due to Great Britain up to the same period, amounting to $128,550 79. This would leave the deficiency in the revenue of the year to stand at $2,117,078 20.

To supply the deficiency last mentioned, the department had at its disposal the following means, viz:

The available balance to the credit of the department on the books of the Auditor on the 1st July, 1852	$566,632 57
The appropriation to supply any deficiency made by the act of March 3, 1851	500,000 00
The appropriation made by the act of March 3, 1853, to supply deficiencies in the year	505,000 00
	1,571,632 57

Leaving the further sum of $545,445 63 to be provided by Congress for the service of the year ending June 30, 1853.

Having stated the deficiency in the revenue of the past year, it may be of use briefly to notice the financial results of the two years which have expired since the passage of the "act to reduce and modify the rates of postage in the United States, and for other purposes," approved March 3, 1851, as compared with the two years which immediately followed the reduction of rates effected by the act of 3d March, 1845.

For the purpose of this comparison, I shall exclude the sums which accrued to the revenue for mail services rendered to the government in those years, as well as the balances resulting in favor of the London post office in the years 1851, 1852, and 1853, under the postal arrangement with Great Britain.

Under the operation of the act of 1845, the gross revenue from letter postage fell off in the year 1846, the first year of the reduction, $988,738 92, or 27 per cent.; but in the second year, ending June 30, 1847, the letter postage increased $363,959 49, or 13⅓ per cent. over 1846.

In the year ending June 30, 1852, the first after the reduction of 1851, the gross amount of revenue from letter postage was reduced $1,185,993 73, or 22⅛ per cent.; but in the following year, ending June

30, 1853, the increase of revenue from the same source was only $251,747 68, or $6\frac{1}{10}$ per cent, an increase very little beyond what is due to the yearly increase in the population of the country.

The failure of the revenue from letter postage to recover during a period of almost unexampled prosperity and commercial activity, with the same rapidity under the act of 1851 as it did under the act of 1845, may be accounted for upon the supposition that the latter act had already stimulated the correspondence of the country nearly to the highest point of which it was capable, and that therefore the act of 1851 afforded but little further inducement to use the mails.

The changes in the rates of postage on newspapers, pamphlets and printed matter, made by the act of 1845, were comparatively unimportant, and did not materially affect the revenue from this source, which, with the exception of the year 1847, continued steadily to increase up to the 30th June, 1851, when it reached the sum of $1,035,130 89, as shown by the following statement, from which the sums received for government postages in 1846 and 1847 are excluded:

Year ending June 30, 1845	$608,765 22
Do. do. 1846	630,052 68
Do. do. 1847	622,218 00
Do. do. 1848	767,334 85
Do. do. 1849	819,016 20
Do. do. 1850	919,485 94
Do. do. 1851	1,035,130 89

The act of 3d March, 1851, provided a new scale of postages on newspapers, periodicals, and other printed matter, graduated by distance; and while it greatly reduced the rates established by the act of 1845, upon publications issued to regular subscribers, it increased the rates upon transient newspapers and other descriptions of printed matter. Under this graduated scale, which was found exceedingly inconvenient in practice, owing to there being no less than six different rates of postage on regular newspapers, according to distance, the revenue from printed matter, which had amounted to $1,035,130 89 in the year ending June 30, 1851, sunk in the year ending June 30, 1852, to $789,246 36, being a decline of $245,884 53, or 23¾ per cent.

In order to remedy the inconvenience to postmasters and the public arising from the charging of postage on printed matter by distance, as well as to simplify the rates on such matter generally, the act amendatory of the act of 1851 "to reduce and modify the rates of postage," &c., was passed on the 30th August, 1852, to take effect on the 1st October following; but this act still further reduced the rates of postage on printed matter, so that the three quarters of the fiscal year ending June 30, 1853, amounted to less than the three quarters which immediately preceded them by the sum of $220,184 47, being a reduction below the revenue on printed matter produced by the act of 1851 of more than 35 per cent. This great reduction is mainly attributable to that provision in the act of August, 1852, which requires only half the regular rates of postage to be paid on newspapers and periodicals when payment is made quarterly or yearly in advance, either at the office of mailing or *delivery*.

The act of 1851 does not seem thus far to have answered the expectations of its friends; but while such has been its effect upon the revenue, the expenditures of the department, particularly for transportation, have been very much increased.

While from 1842 to 1849, including the sum of $255,692 paid in the latter year for foreign service, the cost of transportation, in part owing to some salutary changes made in 1845, decreased in the sum of $403,589, since that time it has gone on very rapidly increasing. In the year ending 30th June, 1849, the transportation of the mails cost the department the sum of $2,577,407 71; in the year ending 30th June, 1850, the sum of $2,965,786 36; in the year ending June 30, 1851, $3,538,063 64; in the year ending 30th June, 1852, $4,225,311 28; and in the year ending 30th June, 1853, the sum of $4,906,308 05, being an increase of $1,368,244 41 for transportation alone since the act of 1851 went into operation.

The commissions allowed to deputy postmasters by the 6th section of the "Act to establish certain post roads and for other purposes," approved March 3, 1853, have proved insufficient at several of the distributing offices to defray the expenses indispensable to their efficient administration. So inadequate, indeed, have been the commissions which accrued at some of this class of offices, that the postmasters, besides being obliged to forego their own compensation, have been brought in debt for expenses absolutely necessary to be incurred in the public service.

This state of things is unjust to the postmasters; alike unjust to those upon whose fidelity and diligence they must rely for the performance of the onerous and responsible duties of their offices, and cannot be permitted to continue without serious public injury. To remedy this evil, I would respectfully recommend that Congress restore to the Postmaster General the discretion confided to him by the 6th section of the "Act to reduce and modify the rates of postage," approved March 3, 1851, so that he may be authorized to allow to postmasters at distributing offices such sum, in addition to the commissions now allowed by law, as will be sufficient to defray reasonable and necessary expenses; and that the Auditor be authorized, under the direction of the Postmaster General, to credit the account of any postmaster of a distributing office with such sum or sums as may be found necessary to defray the expenses of his office from the 1st April, 1853, or from such time thereafter as he became postmaster.

While this power should thus be given to meet exigencies that may arise in a particular class of cases, abundant reasons will appear, in this report, why a larger share of the postages cannot be withdrawn from the use of the General Post Office. But great relief can be afforded to the offices by simplifying their operations and lessening the amount of labor they require. For instance, were prepayment of postage made absolute, how much time and labor would be saved in filling up the post-bill; and how much more in the business of collecting postage and keeping the accounts.

A development of important bearing on the interests of this department has come to my notice in observing the operations of the act of 1851. A large amount of letter correspondence passed through the

mail, chiefly from the cities and principal villages, at but one cent postage per letter; whereas three cents when prepaid, and five cents when unpaid, was the uniform rate for letters contemplated by that great measure of reform. The letters referred to are so sent, at two-thirds less than letters generally, because the body of them is printed or lithographed instead of being written. In every respect they are letters, and serve the purpose of letter correspondence; but advantage is taken of the provision of law in regard to printed circulars, and they are mailed (and legally, too) under that provision. I need not point out its effect in reducing the revenues and disappointing expectations in the working of the low postage measure; nor need I show how vital the difference this provision makes between our experiment and that of England, or the injustice (undesigned, indeed) in relieving a class of letter-writers of two-thirds of their postage-tax and imposing it on others.

Soon after coming into the administration of this department, I felt it my duty to inquire particularly into the mode of examining and checking the quarterly returns of postmasters pursued in the department, and became acquainted with the fact that, although the returns are carefully examined to test the accuracy of the additions, and other calculations involved in their settlement, there is, nevertheless, no process in use by which the post-bills are compared and checked with the transcripts of "Mails received" and "Mails sent;" nor are those transcripts checked with each other to ascertain whether the receiving postmaster charges himself with all the unpaid matter sent to him, as well as the paid matter placed in his office for transmission. Hence it follows that the postmaster at A may mail upon the postmaster at B a certain amount of unpaid letters, and the postmaster at B may enter the amount short of the true sum stated on the post-bill; or he may suppress the post-bill altogether, collect the postage on the letters received, and appropriate it to his own use without any great risk of detection. I am informed, it is true, that where there is reason to suspect the integrity of a postmaster, a rigid scrutiny is instituted into his accounts; but such instances are not common. For the purpose of such investigations, and for the further purpose of tracing letters reported to be lost or stolen from the mails, all the post-bills belonging to the returns of postmasters are retained for the period of a year and a half, and then sold as waste-paper. But the whole system of accounting, to the extent just noticed, is so little calculated to protect and secure the public revenue, that I cannot rest under the grave responsibility of permitting it to continue any longer than the proper remedy can be devised and applied.

The number of postage stamps issued to postmasters for sale during the fiscal years ending June 30, 1852, and June 30, 1853, is shown by the following statement:

Year ending June 30.	Denomination one cent.	Denomination three cents.	Denomination twelve cents.	Amount.
1852.....	5,489,242	48,410,035	237,042	$1,535,638 51
1853.....	4,736,311	51,461,040	146,655	1,608,792 91
	10,225,553	99,871,075	383,697	3,144,431 42

The amount of postage stamps sold during the year ending June 30, 1852, was $1,316,563 39, and the sales during the year ending June 30, 1853, amounted to $1,629,262 12; leaving in the hands of postmasters unsold, $198,605 71.

During the quarter ending September 30, 1853, there were issued to postmasters for sale—

464,350 note-size three-cent stamped envelopes;
8,118,250 letter-size three-cent stamped envelopes;
150,000 letter-size six-cent stamped envelopes;
181,050 official-size six-cent stamped envelopes;
amounting in all to $295,292 69.

I subjoin tabular statements exhibiting the operations of the dead-letter office during the two fiscal years ended the 30th June last.

It is estimated that the expenditures of the current fiscal year will amount to $8,716,601.

Cost of mail service, foreign and inland, as it stood at the close of the last fiscal year		$5,284,089 00
Annual cost of new contracts in New England to commence July 1, 1853, over those which terminated June 30, 1853	$59,776	
Reduction made upon new contracts in New York, as compared with those which expired June 30, 1853.....	23,284	
Increased.....		36,492 00
Cost of line from Louisville to New Orleans	$297,975	
Cost of line from Cairo to St. Louis.....	40,000	
	337,975	
Deduct amount of previous contract between Louisville and St. Louis	70,000	
Rate of additional cost from Dec. 1, 1853, at per annum, is	267,975	156,561 00
Additional service between Montgomery and Mobile, from November 1, at $24,000 per annum.....		16,000 00

Additional service from Chicago to Sheffield, from October 12, 1853, to June 30, 1854, at $1,400 per annum.		$1,008 00
Additional service on same route, from September 20, 1853, to June 30, 1854, at $2,300 per annum		1,794 00
Additional service in Arkansas and White river, from January 1, 1854, at $26,400 per annum		13,200 00
Increase of railroad service for the year ending June 30, 1854		44,253 00
		5,553,397 00
Deduct decrease on steamboat transportation		71,796 00
		5,481,601 00
Add for contingencies		25,000 00
Total transportation		5,506,601 00
Compensation of postmasters, ship, steamboat, and way letters, wrapping-paper, office furniture, advertising, mail bags, blanks, mail locks, keys, and stamps, mail depredations and special agents, clerks for offices, miscellaneous payments, postage stamps and stamped envelopes, balances due to foreign countries for postages, and payments to letter-carriers		3,210,000 00
		8,716,601 00

The means of the department, applicable to the expenditures of the present year, are estimated as follows:

Balance on the Auditor's books on the 1st July, 1853, considered "ultimately available"		$104,726 46
Revenue from postages, foreign and inland, including sales of stamps and stamped envelopes		5,344,133 24
Letter carriers' receipts		120,000 00
Miscellaneous receipts		40,000 00
Annual appropriations, in compensation of mail services rendered the government		700,000 00
Appropriation to supply deficiencies in the present year	$1,800,000	
Deduct amount drawn to supply deficiencies of the past year	550,000	
		1,250,000 00
		7,558,859 70

The estimated expenditures for the year ending June 30, 1854, as already stated, amount to	$8,716,601 00
The estimated means, as above	7,558,859 70
Deficiency, June 30, 1854	1,157,741 30

Of the deficiency above stated, the sum of $545,445 63 belongs to the fiscal year ended June 30, 1853, and the remainder to the present year.

The cost of the service for the last fiscal year on the several United States mail steamship lines, and across the Isthmus of Panama, is as follows:

New York to Liverpool, Collins line, twenty-six voyages	$858,000 00
New York, via Southampton, to Bremen, eleven voyages	183,333 33
New York, via Cowes, to Havre, twelve voyages	150,000 00
New York and New Orleans to Aspinwall, twenty-nine voyages, including twenty-four voyages between New York and New Orleans, via Havana	284,510 00
Astoria, via San Francisco, &c., to Panama, twenty-nine voyages between San Francisco and Panama, and twenty-four on residue of line	346,680 00
Charleston, via Savannah and Key West, to Havana, twenty-four voyages	50,000 00
New Orleans to Vera Cruz, five voyages	7,750 00
Aspinwall to Panama	85,314 00
	1,965,587 33

The report of the Auditor for this department, hereto annexed, shows that the aggregate amount of postages, inland, sea, and foreign, on letters and other mailable matter received and sent by these several lines during the last fiscal year, was as follows:

By Collins line, New York and Liverpool, on letters	$303,733 70	
On newspapers, including those by closed mails	6,628 28	
		$310,361 98
By New York and Bremen line, touching at Southampton, on letters	100,297 79	
On newspapers by closed mails	72 26	
		100,370 05
By New York and Havre line, touching at Cowes, on letters	100,070 44	
On newspapers by closed mails	99 74	
		100,170 18
By Charleston and Havana line, touching at Key West, on letters and newspapers		7,945 63
By New York, New Orleans, Havana, Aspinwall, Panama, San Francisco, and Astoria lines, on letters, (including newspapers only to and from Charleston, and to and from New Orleans)		263,137 58
By New Orleans and Vera Cruz line (commenced 14th April, 1853,) on letters and newspapers		630 84

The amount of postage collected in the United States and Great Britain on letters was:

By Collins line, collected in the United States	$154,188 88	
By Collins line, collected in Great Britain	79,084 21	
		$233,273 09
By Cunard line, collected in the United States	355,253 14	
By Cunard line, collected in Great Britain	222,780 25	
		578,033 39
By the Bremen line		57,051 97
By the Havre line		53,423 62
		921,782 07

From statements annexed, marked A, from the Auditor's office, it appears that the net revenue derived the last year from the several United States mail steamship lines is as follows, viz:

From the Collins line, deducting inland postage, but allowing for sea conveyance of closed mails	$192,313 87
From the Bremen line....do....do	69,951 45
From the Havre line.....do....do	71,147 74
From the New York, New Orleans, and California line, including inland postage and receipts from British and California closed mails pertaining to this line	271,242 63
From the Charleston and Havana line, including inland postage	7,945 63
From the New Orleans and Vera Cruz line, (part of year,) including inland postage	630 84
	613,232 16

It is proper to remark, that while in the case of the Collins, Bremen, and Havre lines the inland postage is deducted, in the sums set down to the other lines it is included. It will be seen, also, that the only newspaper postage credited to the Bremen and Havre lines is that received from newspapers conveyed thereon in closed mails, no separate returns having been made of such as were sent by these lines in the open mails. Admitting that the proportion of newspapers by these two lines, as compared with the number by the Collins line, was about the same as it is in respect to letters, it is fair to credit the former each with $2,000 for newspaper postage, in addition to the sums above respectively set down to their credit.

There is a similar omission, and for the same reason, in regard to the New York and California lines; but I have no reliable data from which to determine what additional sum should be placed to their credit for *postage on* printed matter, of which no separate account appears.

The number of letters conveyed between the United States and Europe during the year—

By the Cunard line, was	2,774,423
By the Collins line, was	1,018,345
By the Bremen line, was	412,117
By the Havre line, was	406,126
	4,611,011

The number of newspapers—

By the Cunard line, was	1,034,163
By the Collins line, was	305,945
By the Bremen line, in closed mails	3,613
By the Havre line, in closed mails	4,987
By the several United States lines in Prussian closed mail	33,155
	1,381,863

The number of letters by the New York, New Orleans, Aspinwall, and Pacific mail steamship lines, was	2,707,533
By the Charleston and Havana line	68,164
By the New Orleans and Vera Cruz line	2,105
The number of newspapers by the Charleston and Havana line was	33,122
By the New Orleans and Vera Cruz line	3,137

The amount received from Great Britain on loose letters collected during the year on board the Atlantic mail steamers was	$1,269 16
Amount paid Great Britain on same	29 86
The amount received from Great Britain on dead letters returned to the London office was	14,024 92
Amount paid Great Britain on dead letters returned to Washington	1,772 66
The United States revenue under the postal treaty with the United Kingdom of Great Britain and Ireland for the last fiscal year, amounts to	469,804 79
The balance in favor of that government at the close of the fiscal year was	151,361 75

This large balance against the United States arises, of course, mainly from the circumstance that although there were only three more trips by the Cunard line than were performed unitedly by the Collins, Bremen, and Havre lines, much the greater part of the mails were conveyed by the former. For instance—while the postage on the letters sent during the year from Great Britain to the United States by Cunard steamers was $325,200 33

By the Collins steamers, performing just half the number of trips, it was but.....$106,065 49

Showing a difference of..... 219,134 84

More than treble the number of letters having been sent to this country by the Cunard than by the Collins steamers.

Again, while the sum paid to Great Britain for the conveyance of closed mails for the year was..... $70,081 19

The amount paid by that government to the United States, exclusive of the sum received on the California closed mails, via the West Indies and Panama direct, was only 48,222 22

And this includes the land conveyance of the British and Canada closed mails.

The partiality of the British government in behalf of the Cunard line is presented in a still stronger light by the accompanying statements, where it is shown that in the matter simply of sea-postage on closed mails during the last three quarters of the year, dating from the time the United States and Prussian arrangement went into operation, the British charge against the United States is... $28,180 60

While during the same time the United States received from Great Britain for Atlantic sea-conveyance of all closed mails, including those to and from the British North American provinces, Havana, and California, only 3,513 60

But in the mails despatched from the United States for England by these two lines, no such difference appears. Thus, taking the same period, on mails sent by Cunard steamers the postage was.....$252,833 06

By Collins steamers..... 127,207 60

Difference..... 125,625 46

From this last comparison it is apparent that, as regards the mails sent from the United States, each line received very nearly its due proportion. Comparing the Bremen and Havre lines with the Cunard line, the difference in favor of the latter is still vastly greater.

Thus, by the Bremen and Havre lines, performing unitedly twenty-three voyages, the postage on mails sent from England was only..... $45,999 90

This great inequality can be accounted for solely by the fact, that while the United States makes no discrimination in respect to the lines carrying the Prussian closed mails, the British postal authorities employ the Cunard line almost exclusively for the transmission of their closed mails which pass through the United States.

Another extraordinary feature in this matter is presented with reference to the mails from the continent of Europe, received in the United States through England. It will be seen that, of this class of correspondence for the year, there were received by British steamers ..... 57,059 letters.
And by United States steamers, performing but three trips less, only ..... 5,737 letters.

Difference in favor of the British line ..... 51,322 letters, or nearly ten to one.

While these most unjust discriminations have been taking place, other facts connected with the same subject should be borne in mind. Great Britain received for the transit through that country of our Bremen closed mails, in the first quarter of the last fiscal year, thirty cents an ounce, and on the United States and Prussian closed mails is now receiving seventeen and a half cents an ounce, whilst the United States have received but twelve and a half cents an ounce for the British and Canada closed mails, though performing a service at least equal in point of importance.

The whole amount of letter-postage collected in the United States and Prussia respectively, under the United States and Prussian postal arrangement, during the above-mentioned period, is as follows, viz:

Amount pre-paid sent from the United States		$32,317 91
Amount unpaid received from Prussia		11,749 81
		44,067 72
Amount unpaid sent from United States ...	$69,498 12	
Amount paid received from Prussia	10,471 95	
		79,970 07
		124,037 79

The amount of postages for the year on letters between the United States and the British North American provinces, under the postal arrangements with Canada and New Brunswick, by which each party retains what it collects—pre-payment through to destination being optional on either side—was $88,081 72.

Collected in British provinces	$44,812 47
Collected in United States	43,269 25
Balance in favor of provinces	1,543 22

The postage on printed matter, to and from the provinces, comes into the account of domestic postages. In respect to such printed matter the rates are the same, to and from the line, as if it were circulated wholly within the United States; but payment through to destination is not permitted. On printed matter, each party collects its own postage to and from the line. The arrangements with Canada and New

Brunswick involve the keeping of no international accounts; and hitherto their operation has been satisfactory.

The statement annexed, from the Fourth Auditor of the Treasury, shows, that on the navy mail contracts, in addition to fines on two of the lines, the ten per cent. deduction on the original advance to the companies has been made. On the New York and San Francisco line a few extra trips were performed in the months of April, May, and June last, without additional expense to the department.

The mail-service from New York, by the way of Southampton, to Bremen; that from Charleston to Havana, by way of Savannah and Key West; and that from New York to Havre, *via* Cowes, is paid for out of the funds of the Post Office Department; amounting, if all the service be performed, to the sum of $400,000. In addition to this, there was paid by the department the last year, for the transportation of the mail across the Isthmus—a service performed in a foreign country—the sum of $85,314, which will be greatly increased, judging from the last quarterly returns during the ensuing year.

If Congress intends that the mail-service of the country shall be sustained by the money derived from postages, these charges should not be placed upon it. In providing for the building and equipment of naval steamships, Congress seems to have meant to encourage the erection, by individuals, of war steamships, which might, on the emergency of a war, be ready for public use; and such being its design, and the carrying of the mails but an incidental purpose, the public treasury should bear the cost. The amount of postage derived from these vessels is but small, as has been shown; and, in view of the extension of mail accommodations, asked for from every part of the country, which has now to be frequently denied, I would suggest that these lines be now paid for in the manner now provided for in relation to the other lines. The extending settlements of our country, and the great increase and activity of business of every description, require all the mail accommodations that can be given, and the department should not be burdened with payment for services which do not properly belong to it.

No material change has been made in our postal convention with Great Britain since the date of the last annual report from the Postmaster General. Under this convention, the additional articles—to which allusion was made in that report—providing for a regular exchange of mails between the United States and the West Indies, were duly executed; and the arrangement has been in successful operation since about the 15th of January last. (A copy of these articles is annexed, marked B.)

Similar additional articles have been agreed upon, and an arrangement concluded—which went into effect in October last—with respect to mails between the United States and the west coast of South America. Under the latter arrangement, the British packet office at Panama is the exchange office on the part of Great Britain; and New York, Charleston, Savannah, New Orleans, and San Francisco are the offices of exchange on the part of the United States. By this agreement the United States avails itself of the facilities of communication secured *by existing postal* treaties between Great Britain and the seve-

ral governments on the west coast of South America; the mails being transported by a line of British steam-packets plying between Panama and Valdivia, touching at the prominent intermediate ports. On letters sent from the United States, the rate of postage—for which the United States has to account to the British Post Office, under this arrangement—is eight cents the single letter, between Panama and Buenaventura, New Grenada; twelve cents between Panama and Peru; and twenty-four cents between Panama and any other port on said coast. On letters received, the British packet-postage, as above, is required to be pre-paid. To the above rates, respectively, the United States postage of twenty cents to New Grenada and Peru, and twenty-four cents the single rate in all other cases, has to be added. On newspapers, the British packet-postage is four cents, to which is added the United States postage, also of four cents each. (A copy of the articles of agreement is annexed, marked C.)

The exorbitant rates of postage on pamphlets and magazines between the United States and Great Britain—the charge for works of this kind above the weight of two ounces being four cents an ounce on either side—having so long been a cause of just complaint on the part of both American and British citizens, I embraced an early occasion to renew the proposition of my immediate predecessor for a reduction of the United States postage from four cents to one cent an ounce, on condition that the same reduction be made in the British postage. This proposal, I regret to state, is still regarded unfavorably, although not absolutely declined, by the British government. Should it be acceded to, it will remain only to make a like reduction to the west coast of South America, to have a uniform rate of one cent an ounce United States postage on pamphlets and magazines between the United States and all foreign countries. Except as above mentioned, I have already reduced the pamphlet and magazine rates, to and from all foreign countries, to one cent an ounce, under the authority of a provision respecting foreign postages in the act of 3d March, 1851.

No reduction has as yet been made in the high transit postage charged on the mails passing through England, to and from the United States; nor has any success attended the measures adopted towards effecting "such arrangements (contemplated by a provision in the 12th article of our postal treaty with Great Britain) for the conveyance of letters and newspapers, and closed mails, through the territories of the United States, of the United Kingdom, and of France, respectively, as should be most conduce to the interests of the three countries."

Whilst the British government has been paying the United States twelve and a half cents an ounce for the transit of the British and Canada closed mails between Canada, New York, and Boston, it has been, I think, most unjustly demanding and receiving twenty-four cents an ounce for the transit of the French mails through England; and the effect has been greatly to inconvenience correspondents both in the United States and France, and to postpone, from the date of the postal treaty with England, in 1848, to the present time, notwithstanding our repeated requests and demands, the execution of an agreement which would at least conduce to the interests of two of the countries intended to be benefited by the 12th article.

Relying, however, on the justness of the claims of the United States, have, by a communication to the Secretary of State, under date of th July last, in answer to one from Lord Clarendon, taken pains to ve this whole subject presented in its proper light to our minister at ondon, who, I doubt not, will use every honorable means to press it to satisfactory result.

Our negotiations with France, with respect to a postal convention between the two countries, are still in progress; and, except in regard to two three important points of difference, the basis of an arrangement has een agreed upon. France proposes the quarter-ounce scale for letters, he partial introduction of which into our postal system, it is apprehended, ould create confusion and lead to innumerable irregularities in charg- ng and collecting postage. I have deemed it advisable to insist on the alf-ounce scale now in operation in this country, in England, and in nost of the States on the continent. France also proposes to make a listinction between prepaid and unpaid letters, instead of adopting one and the same rate for all letters, whether prepaid or not; which latter plan, being the more simple, I am inclined to regard as the best in all international arrangements of this kind, where simplicity of detail, in every point of view, is so essential. Another question is, as to the proportion each country shall receive of the inland postage. On all prepaid correspondence between the two countries, France proposes to take five, to the United States three, cents the single letter; and on unpaid correspondence, that the aggregate inland postage shall be ten cents, to be equally divided. Considering the comparative extent and the cost of the mail transportation of the two countries, I have thought it sufficiently liberal on our part to offer to France three-eighths, to the United States five-eighths, of the inland postage, the sea postage to belong to the party by which the Atlantic conveyance of the correspondence shall be performed. If the modifications I have thus proposed to France are accepted, as I trust they may be, I see no serious obstacle to the early conclusion of a postal arrangement which shall be mutually beneficial, and which is so earnestly desired by the people of both countries.

The pending postal convention between the United States and Belgium awaits only the reduction of the British transit rate, and one or two modifications, before being finally concluded and put in operation.

Our postal arrangement with Prussia seems to operate favorably; but a few of the States in Southern Germany have not yet fully acceded to its terms, and have therefore sent much of their correspondence for the United States through France. Whether, however, the arrangement can be safely continued, unless the present charge of twenty-five and a half cents an ounce British and Belgian transit postage is materially reduced, remains yet to be seen.

From the Auditor's statement annexed, it appears that, after paying the sea and British and Belgian transportation of the mails conveyed under this arrangement, together with the commissions thereon to our postmasters, the balance in favor of the United States for the period from 16th October, 1852, when the treaty went into effect, to 30th June, 1853, is but $6,199, which sum may be set down as the net United States inland postage on these mails.

By a postal convention concluded on the 4th of August last, between the United States and Bremen, the main provisions of the arrangement of 1847, heretofore in operation between the post departments of the two countries, have been superseded, and the rate of postage reduced from twenty cents to ten cents the single lettter. Under the former arrangement, the postmaster of Bremen acted as the agent of this department in collecting postages, receiving for his services a commission of twenty per cent. on all money thus collected and paid over to the United States. By the present arrangement, which went into effect on the 15th August, the Bremen government putting on two steamers to run monthly, alternately, in connexion with the United States steamers Washington and Hermann, between New York and Bremen, provision is made for a due division of the postages accruing from the two lines, and the commission to the postmaster of Bremen is discontinued. All the States of the German-Austrian postal union, respectively, are to have the advantage of the rate of ten cents between the United States and Bremen, whenever their postage to and from Bremen for letters to and from the United States shall be reduced to the uniform rate of five cents or less; but on all correspondence for or from such of said States as shall not so reduce their rates, the charge between the United States and Bremen is fifteen cents the single letter. Several of the German States, including the Empire of Austria and the Kingdoms of Prussia and Saxony, have already made the requisite reduction to secure the benefit of the lower rate of ten cents, and it is confidently expected that all will come into this arrangement at an early day.

The reduction of the letter postage by the Bremen line to one-half the former rate, offers greatly improved facilities for the correspondence to and from the continent of Europe. The propriety of this reduction will be apparent in view of the fact that the sea postage on all correspondence between this country and Europe has generally, and, in my opinion, most justly, been considered as quite too high. It is, moreover, as well our interest as our duty to extend to the large and increasing German population of the United States, and to their friends at home, the most liberal means of communication practicable. (A copy of the articles of agreement is annexed, marked D.)

On the 3d of March, 1853, Postmaster General Hubbard concluded a contract with Messrs. Ramsey and Carmick, of New York, at $424,000 per annum for service semi-monthly from Vera Cruz, Mexico, by Acapulco, San Diego, and Monterey, to San Francisco and back, in thirteen days each way, being an extension of two of the trips on the New Orleans and Vera Cruz line through Mexico, for the purpose of conveying the mail, and thus making one through-line in sixteen days between New Orleans and San Francisco, a copy of which was communicated to the Senate on the 11th of March. This contract contains a stipulation that it shall not have any validity unless Congress should sanction it by the passage of an appropriation to carry it into effect. On the 16th of June the department received a communication from Robert G. Rankin, president of the Ocean Mail and Inland Company, who states that that company is the real party to the contract entered into by Messrs. Ramsey and Carmick, reporting progress towards putting service into execution. To this communication the

›llowing reply was sent by me on the 9th of July: "Your letter of ıe 15th ult. came duly to hand. My attention having thus been pecially called to the circumstances connected with the contemplated ne to the Pacific, *via* Vera Cruz and Acapulco, I feel it my duty, fter due deliberation, to inform you that the conditional contract en-ered into between my predecessor, Mr. Hubbard, and Messrs. Ramsey nd Carmick, for the conveyance of the mails over this line to San rancisco, does not meet with my approbation.

"In the first place, as at present advised, I consider the route im-›racticable for mail purposes.

"In the second place, the sums of money yearly drawn from the reasury for contracts which have for several years been, and are still n force, for the transportation of the mails between the Atlantic and he Pacific, are very considerable, amounting to about $731,868. In view of this fact, and of the many sections and neighborhoods in the lifferent States which are either greatly restricted in, or deprived alto-gether of mail facilities, it appears to me both inexpedient and unjust :o go into the expenditure of a still further sum of $424,000 for the ser-vice in question. Moreover, I disapprove of the principle upon which this contract is made. In my opinion, if the Postmaster General has the right to make such a contract at all, it ought to be made without the restriction or limitation contained in yours, by which its force or validity is made to depend upon the passage of an appropriation by Congress to carry it into effect. I am unwilling to recognise any con-tingency of this kind, because although the contractors may, under such conditional arrangement, establish no legal claim for compensation, they may, nevertheless, go on and incur expenses in the expectation that they will be paid, and Congress, more from private sympathy than from public policy or right, be at length induced to yield to a measure to which its prior sanction never could have been obtained."

Since that time the department has not heard from the Mexican Ocean Mail and Inland Company.

By the third section of the act of March 3, 1853, I was directed to make certain inquiries, and report to Congress for what sums the sev-eral services now performed under contracts with the Post Office and Navy Departments could be performed in case new contracts should be made; upon the supposition that the United States should take the steamers according to contract and sell or transfer them.

In order to get this information, I caused advertisements to be in-serted in some of the newspapers in the principal cities of the Union, in which, after referring to the act of Congress, to the stipulations in the different contracts providing for the purchase of the steamers, and to the nature and character of the service required, I invited proposals. Bids have been received, copies of which, and the advertisement, are attached, marked E. In the tables annexed hereto, marked F and G, the sums paid the different lines and the proposals to do the same ser-vice appear.

It will be seen that the offer to do the service on the line from New York to San Francisco is much lower than the sums now paid. From New York to San Francisco, the Nicaragua company propose to carry a semi-monthly *mail for* a sum not to exceed $300,000 per annum

This includes the isthmus transportation, and will make the yearly cost to the government some four or five hundred thousand dollars less than the present.

It is, of course, most desirable that the means of communication between our Atlantic and Pacific coasts should be as free and unrestricted as possible, and that the prices of freight and passage should be brought down to the lowest terms. The present prices paid to the New York and Aspinwall and the Pacific Mail Steamship lines almost exclude competition, and leave these companies almost a monopoly of the carrying and passenger trade between the Atlantic and Pacific coasts.

This state of things must be injurious to our Atlantic States, and must deeply affect the great and growing interests of California and our Pacific territories, and seems to demand from the general government a withdrawal of the fostering and sustaining aid which it has extended to these lines. Viewed simply in connexion with the mails, the Nicaragua company would carry a weekly mail, according to a pro rata, for a much less sum than is now paid the present mail and isthmus companies for carrying a semi-monthly mail. A more frequent communication by mail is most desirable, and will be in a short time, if not now, imperatively required; and when a proposition is made by which a weekly line of communication can be established for a much less sum than is now paid for a semi-monthly line, it seems to me that there should be no hesitation on the part of the general government in adopting it.

For the carrying of the mail between New York and Liverpool, but one proposition has been received. The New York and Galway Steamship Company will perform twenty-six round voyages per annum between New York and Liverpool, or such other ports of Great Britain and Ireland as may be directed by Congress, in forty-eight hours less time than is accomplished by the present contractors, for a compensation to be submitted to the discretion of Congress. The competition on this line, owing to the great amount of investment required, cannot be great.

If the design of Congress be to withdraw from the Collins line the very large appropriation which they now receive, the Postmaster General might be authorized to pay to every steamer running between the United States and Great Britain a fixed sum for each single trip, the trips not to exceed a given number per week. If the British government could be induced to enter into an arrangement by which they should pay a given sum for every mail to the United States, while we paid a like sum for those sent to England, without regard to the nationality of the vessels, except that they should be American or British, the strife which now exists between the Collins and Cunard lines would be at an end; the whole matter would be thrown open to individual competition; the facilities of communication between the two countries would be cheapened and increased, and a direct mail communication with England be extended to every principal seaport town in the Union.

By the same section I was directed to investigate the facts in relation to the contract of A. G. Sloo, for the transportation of the mail

in ocean steamers from New York to New Orleans, Charleston, Savannah, Havana, and Chagres, and back, per act of March 3, 1847, for the purpose of ascertaining how far the contract corresponds with the original bids.

By his bids of 15th January, 1846, he proposed to carry the mail "from New York, via Havana, in Cuba, to New Orleans and back, once a week, for the annual compensation of two hundred thousand dollars," or, "once in two weeks for the annual compensation of one hundred thousand dollars." He also proposed to carry the mail from New Orleans, by Havana, to Chagres, in Colombia, and back, once a month, for the annual compensation of ninety thousand dollars."

These bids, with one for the line from New York to Havre, and extension to Bremen, were made "upon the condition that the United States should furnish one-half the funds necessary to construct the steamships to be employed on the routes from New York to Havre, and from New York to New Orleans, or either of them, if but one should be awarded to him—say five hundred thousand dollars on each route; and if they think proper, to retain a lien on the vessels for their security, and for the faithful performance of the service." In case his bid for the route from New Orleans to Chagres were accepted, he proposed that "then the United States should advance, upon like condition, fifty thousand dollars to build a suitable steamship for the service." The service was all to be in steamships of certain dimensions, described at length in the bid, and convertible into ships-of-war.

He also proposed to carry the mail from New York to Havre, calling at Cowes, and from New York, by Havana, to New Orleans, or on either of these routes, for the postages on the letters and printed matter conveyed thereon, provided the United States would furnish the funds requisite to build the steamships necessary for the performance of the service, it being understood that they should be built by him, under the supervision of a naval constructor to be appointed by the government, and that all repairs should be at his, the contractor's, expense.

These, and various other propositions for foreign mail service received at the same time, under an advertisement of the Post Office Department, dated 4th October, 1845, I find were all reported to Congress in a letter from the Postmaster General, Mr. Johnson, under date of 9th March, 1846; and to this letter I beg leave to refer as containing a more particular explanation of the bids in question. (See House Document No. 162, 29th Congress, 1st session.)

In this report Mr. Johnson said, that "as the establishment of a line of said vessels (steamships) to Chagres, and from Panama to Oregon, will require means from the treasury, and is of doubtful policy. it has been thought most advisable to submit the propositions to Congress without an acceptance, so that an appropriation may be made for it, if in the opinion of Congress the line should be established."

Subsequently, under the act of Congress approved March 3, 1847, the present contract was made at $290,000 per annum for service from New York to New Orleans, twice a month and back, touching at Charleston, (if practicable,) Savannah, and Havana, and from Havana to Chagres and back, twice a month.

On the last remaining question, "whether the ships furnished under

said contract are built according to its terms," I applied to the Secretary of the Navy, under the direction of which department the vessels were constructed, for the desired information, and he has referred me to Executive Document of the House of Representatives No. 91, 1st session 32d Congress, as containing all the information on the subject in possession of that department, including "the contract, the entire correspondence, and the report of the respective boards appointed to examine the Illinois, Georgia, and Ohio, the only vessels (he says) accepted under the law of March 3, 1847." To this document, therefore, I take occasion also respectfully to refer for authentic information on this subject.

The manner in which the mail service has been performed for the year ending June 30, 1853, will appear in the report embracing a statement of failures and irregularities in the transportation and fines and deductions from the pay of contractors. These fines and deductions will be found to amount in the aggregate to $37,920 31.

All our mail contracts provide for fines and deductions for defective and omitted service. The system is absolutely necessary for securing regularity and precision in carrying and delivering the mails. There is always in the department a disposition to encourage contractors, and to avoid capricious or unreasonable penalties, and in no case is a deduction made without careful investigation of its merits; but in every case of failure valid and satisfactory reasons must be shown therefor. A failure to exact fines and penalties, or a disposition to release them when exacted, leads to the grossest irregularities in the service.

The substitution of railroad for coach service has increased the demand for mail bags fully ten-fold. During the last fiscal year, more than twenty-three thousand new mail bags of all sizes and kinds were procured; more than one-third of which were canvass bags, or sacks, used almost exclusively for the transportation of printed matter.

Measures recently adopted and now in progress to effectuate the provisions contained in the first section of the act of 31st August, 1852, will doubtless tend to check waste and abuse in this branch of the service; but such is the continued extension of mail accommodations, it can hardly be estimated that a less number will be required hereafter.

The extension of the building occupied by this department has been strongly recommended by my predecessors, and the reasons urged by them are every year acquiring additional force. The increasing business of the department, the limited accommodations for the clerks in the different bureaus and the Auditor's office, and the want of room for important papers which have now to be placed in the halls and cellars, subject to be destroyed by fire or mildew, require the original design to be completed.

Much difficulty is experienced in finding suitable rooms especially for distributing post offices, in our large cities. The amount for rent which can be taken out of the commissions in many cases, is not sufficient to enable postmasters to secure buildings at all fitted for the proper discharge of the business of their offices.

In order the better to serve the public, post offices must be located in the business parts of the different cities, where high rents are to be

paid, and these the department is very frequently unable to allow. If Congress would deem it wise or expedient to appropriate moneys to enable the department to buy or erect suitable places for post offices in the larger cities of the Union, much would be saved to the department, and suitable places could be permanently secured, and the public thereby much better accommodated.

My assistants and chief, and other clerks, deserve my especial thanks for their prompt and faithful attention to their duties.

JAMES CAMPBELL.

To the PRESIDENT.

A.

POSTAGES AND REVENUE BY OCEAN MAIL STEAMERS FOR FISCAL YEAR ENDED JUNE 30, 1853.

[A.]

Letter postages by the Collins line during the fiscal year ended June 30, 1853.

Month.	Received.	Sent.	Amount.
July	$8,837 11	$11,842 96	$20,680 07
August	9,255 09	12,561 04	21,816 13
September	9,184 65	11,052 73	20,237 38
	27,276 85	35,456 73	62,733 58
October	8,920 48	18,141 47	27,061 95
November	15,678 70	12,434 59	28,113 29
December	5,008 11	13,052 36	18,060 47
	29,607 29	43,628 42	73,235 71
January	14,732 87	14,397 67	29,130 54
February	14,018 35	18,352 99	32,371 34
March	11,601 38	14,271 56	25,872 94
	40,352 60	47,022 22	87,374 82
April	10,340 00	19,368 84	29,708 84
May	13,027 04	14,779 15	27,806 19
June	9,045 76	13,828 80	22,874 56
	32,412 80	47,976 79	80,389 59

RECAPITULATION.

Quarter.	Received.	Sent.	Amount.
3d quarter, 1852	$27,276 85	$35,456 73	$62,733 58
4th quarter, 1852	29,607 29	43,628 42	73,235 71
1st quarter, 1853	40,352 60	47,022 22	87,374 82
2d quarter, 1853	32,412 80	47,976 79	80,389 59
	129,649 54	174,084 16	303,733 70

Showing to and from what countries the mails by the Collins line were received and sent.

	Received.	Sent.	Total.
London and Liverpool	$106,065 49	$127,207 60	$233,273 09
Bremen	20,477 49	7,397 23	27,874 72
Prussia	3,106 56	39,479 33	42,585 89
	129,649 54	174,084 16	303,733 70

[B.]

Newspaper postages by the Collins line during the fiscal year ended June 30, 1853.

Month.	Number sent.	Number received.	Total.	Postage.
July, 1852	13,325	8,788	22,113	
August, 1852	13,448	9,969	23,417	
September, 1852	10,591	7,703	18,294	
	37,364	26,460	63,824	At 2 cents, $1,276 48
October, 1852	16,644	13,118	29,762	
November, 1852	10,808	15,604	26,412	
December, 1852	12,692	6,348	19,040	
	40,144	35,070	75,214	At 2 cents, 1,504 28
January, 1853	12,085	12,964	25,049	
February, 1853	15,779	9,478	25,257	
March, 1853	17,375	9,727	27,102	
	45,239	32,169	77,408	At 2 cents, 1,548 16
April, 1853	21,896	9,830	31,726	
May, 1853	17,452	17,597	35,049	
June, 1853	12,292	10,432	22,724	
	51,640	37,859	89,499	At 2 cents, 1,789 98

RECAPITULATION.

Quarter.	Number sent.	Number received.	Total.	Postage.
3d quarter, 1852	37,364	26,460	63,824	
4th quarter, 1852	40,144	35,070	75,214	
1st quarter, 1853	45,239	32,169	77,408	
2d quarter, 1853	51,640	37,859	89,499	
	174,387	131,558	305,945	At 2 cents, $6,118 90

[C.]

Closed mails conveyed by the Collins line during the fiscal year ended June 30, 1853.

Quarter.	Ounces.	Rate.	Amount.
Third quarter, 1852.		*Cents.*	
From Canada	192½	52½	$101 19
To Canada	488½	52½	256 46
To California	274½	65	178 43
To Havana	122	65	79 30
Newspapers 2,628		2	52 56
			667 93
Fourth quarter, 1852.			
From Canada	288½	52½	151 59
To Canada	279½	52½	146 87
From California	470	65	305 50
To California	421½	65	273 97
To Havana	104	65	67 60
Newspapers 5,841		2	116 82
			1,062 35
First quarter, 1853.			
From Canada	333½	52½	175 06½
To Canada	323	52½	169 57½
From California	674½	65	438 49½
To California	604½	65	392 92½
To Havana	174½	65	113 42½
Newspapers 3,249		2	64 98
			1,354 41½
Second quarter, 1853.			
From Canada	692½	52½	363 56
To Canada	667	52½	350 17
From California	483	65	313 95
To California	471½	65	306 48
To Havana	231	65	150 15
Newspapers 5,090		2	101 80
16,808	7,296½		1,586 11

RECAPITULATION.

Third quarter, 1852	$677 93
Fourth quarter, 1852	1,062 35
First quarter, 1853	1,354 41½
Second quarter, 1853	1,586 11
Credit of United States	4,670 80½

[D.]

Statement of revenue by the Collins line for the fiscal year ended June 30, 1853.

Gross amount of letter postage, with the British and United States inland rates included, as per statement A	$233,273 09
Deduct British and United States inland postage, eight twenty-fourths	77,757 70
	155,515 39
Add newspaper postage, as per statement B	6,118 90
Add sea rate on Prussian closed mails conveyed by said line, 40,839 ounces, at 40 cents	16,335 60
Add sea rate on California, Canada, and Havana mails, as per statement C, 7,296½ ounces, at 40 cents	2,918 60
Add newspaper Prussian mails, 8,661, at 2 cents	173 22
Add newspaper California, Canada, and Havana mails, 16,808, at 2 cents	336 16
Add sea rate on Bremen closed mails, 27,290 ounces, at 40 cents	10,916 00
Net revenue by Collins line	192,313 87

[A.]

Statement of postages by the New York and Bremen line, for the fiscal year ended June 30, 1853.

Month.	Received.	Sent.	Total.
July, 1852	$3,287 95	$5,057 33	$8,345 28
August, 1852	3,896 23	4,565 06	8,461 29
September, 1852	3,161 18	4,349 12	7,510 30
	10,345 36	13,971 51	24,316 87
October, 1852	3,935 69	4,743 71	8,679 40
November, 1852	4,934 27	3,525 83	8,460 10
December, 1852	None.	5,157 36	5,157 36
	8,869 96	13,426 90	22,296 86
January, 1853	9,744 16	None.	9,744 16
February, 1853	None.	5,177 85	.....
March, 1853	None.	3,925 64	9,103 49
	9,744 16	9,103 49	18,847 65
April, 1853	5,425 22	4,571 63	9,996 85
May, 1853	8,406 56	4,931 77	13,338 33
June, 1853	6,947 27	4,553 96	11,501 23
	20,779 05	14,057 36	34,836 41

RECAPITULATION.

Quarter.	Received.	Sent.	Total.
3d quarter, 1852	$10,345 36	$13,971 51	$24,316 87
4th quarter, 1852	8,869 96	13,426 90	22,296 86
1st quarter, 1853	9,744 16	9,103 49	18,847 65
2d quarter, 1853	20,779 05	14,057 36	34,836 41
	49,738 53	50,559 26	100,297 79

Showing to and from what countries the mails by the Bremen line were received and sent.

	Received.	Sent.	Total.
London and Southampton	$23,612 72	$33,439 25	$57,051 97
Bremen	25,962 31	9,519 47	35,481 78
Prussia, (estimated)	163 50	7,600 54	7,764 04
	49,738 53	50,559 26	100,297 79

[B.]

Closed mails conveyed by the New York and Bremen line during the fiscal year ended June 30, 1853.

Quarter.	Ounces.	Rate.	Amount.
Third quarter, 1852.			
		Cents.	
From Canada	22	52½	$11 55
To Canada	35½	52½	18 64
From California	232	65	150 80
To California	106	65	68 90
To Havana	22	65	14 30
Newspapers 205		2	4 10
			268 29
Fourth quarter, 1852.			
From Canada	506	52½	265 65
To Canada	22	52½	11 55
To California	99	65	64 35
To Havana	29	65	18 85
Newspapers 1,019		2	20 38
			380 78

B—Continued.

Quarter.	Ounces.	Rate.	Total.
First quarter, 1853.			
		Cents.	
From Canada	10	52½	$5 25
To Canada	6	52½	3 15
To California	68	65	44 20
To Havana	20	65	13 00
Newspapers 68		2	1 36
			66 96
Second quarter, 1853.			
From Canada	258	52½	135 45
To Canada	16½	52½	8 66
To California	90	65	58 50
To Havana	31	65	20 15
Newspapers 726		2	14 52
2,018	1,573		237 28

RECAPITULATION.

Third quarter, 1852	$268 29
Fourth quarter, 1852	380 78
First quarter, 1853	66 96
Second quarter, 1853	237 28
Total credit of United States	953 31

[C.]

Statement of revenue by the New York and Bremen line for the fiscal year ended June 30, 1853.

Gross amount of letter postage, with the Bremen and United States inland postage included, as per statement A	$35,481 78	
Deduct inland postage	8,870 44	
		$26,611 34
Gross amount of letter postage to British offices, with the British and United States inland postages included, as per statement A.	57,051 97	
Deduct inland postages, eight twenty-fourths	19,017 32	
		38,034 65
Add sea-rate on Prussian closed mails, 11,510 ounces, at 40 cents		4,604 00
Do do do 1,595 newspapers, at 2 cents		31 90
Add sea-rate on California, Canada, and Havana closed mails, as per statement B, 1,573 ounces, at 40 cents		629 20
2,018 newspapers, at 2 cents		40 36
Net revenue by New York and Bremen line		69,951 45

[A.]

Statement of postages by the New York and Havre line for the fiscal year ended June 30, 1853.

Month.	Received.	Sent.	Total.
July, 1852	$3,663 60	$8,343 45	$12,007 05
August, 1852	3,586 22	4,222 38	7,807 60
September, 1852	3,719 62	4,115 18	7,874 80
	10,968 44	16,721 01	27,689 45
October, 1852	3,552 78	4,196 31	7,749 09
November, 1852	3,841 73	4,333 87	8,175 60
December, 1852	.....	.....	.....
	7,394 51	8,530 18	15,924 69
January, 1853	5,960 08	5,019 06	10,979 14
February, 1853	6,585 91	4,725 47	11,311 38
March, 1853	6,655 53	5,257 68	11,913 21
	19,201 52	15,002 21	34,203 73
April, 1853	3,441 20	4,241 81	7,683 01
May, 1853	3,319 14	4,233 47	7,552 61
June, 1853	2,437 24	4,579 71	7,016 95
	9,197 58	13,054 99	22,252 57

RECAPITULATION.

Quarter.	Received.	Sent.	Total.
3d quarter, 1852	$10,968 44	$16,721 01	$27,689 45
4th quarter, 1852	7,394 51	8,530 18	15,924 69
1st quarter, 1853	19,201 52	15,002 21	34,203 73
2d quarter, 1853	9,197 58	13,054 99	22,252 57
	46,762 05	53,308 39	100,070 44

Showing to and from what countries the mails by the Havre line were received and sent.

	Received.	Sent.	Total.
London and Southampton	$22,387 18	$31,036 44	$53,423 62
Bremen	9,625 14	9,304 59	18,929 73
Prussia	2,537 53	3,948 43	6,485 96
Havre	12,212 20	9,018 93	21,231 13
	46,762 05	53,308 39	100,070 44

[B.]

ɔsed mails conveyed by the New York and Havre line during the fiscal year ended June 30, 1853.

Quarter.	Ounces.	Rate.	Amount.
Third quarter, 1852.			
		Cents.	
m Canada	30	52½	$15 75
Canada	41½	52½	21 78
California	128	65	83 20
Havana	31	65	20 15
rspapers 38		2	76
			141 64
Fourth quarter, 1852.			
m Canada	620	52½	325 60
Canada	12	52½	6 30
California	84	65	54 60
Havana	20	65	13 00
spapers 2,316		2	46 32
			445 82
First quarter, 1853.			
m Canada	21	52½	11 02½
Canada	7½	55½	3 93¾
n California	224	65	145 60
California	66	65	42 90
Havana	21	65	13 65
spapers 291		2	5 82
			222 93
Second quarter, 1853.			
n Canada	83	52½	43 57½
Canada	25½	52½	13 38¾
n California	90½	65	58 82½
California	101	65	65 65
Havana	34	65	22 10
spapers 152		2	3 04
2,797	1,640		206 58

RECAPITULATION.

d quarter, 1852	$141 64
th quarter, 1852	445 82
; quarter, 1853	222 93
nd quarter, 1853	206 58
Total credit of the United States	1,016 97

[C.]

Statement of revenue by New York and Havre line for the fiscal year ended June 30, 1853.

Gross amount of letter postage, with the United States inland postage included, as per statement A	$21,231 13	
Deduct United States inland postage	5,307 78	
		$15,923 35
Gross amount of letter postage to British offices, with British and United States inland postage included, as per statement A	53,423 62	
Deduct inland postage	17,807 87	
		35,615 75
Gross amount of letter postage to Bremen office, with the United States inland postage included, as per statement A	18,929 73	
Deduct inland postage	4,732 43	
		14,197 30
Add sea rate on Prussian closed mails, 11,639 ounces, at 40 cents	4,655 60	
2,190 newspapers, at 2 cents	43 80	
		4,699 40
Add sea rates on California, Canada, and Havana closed mails, as per statement B, 1,640 ounces, at 40 cents	656 00	
2,797 newspapers, at 2 cents	55 94	
		711 94
Net revenue by New York and Havre line		71,147 74

[A]

Letter postages by the Cunard line during the fiscal year ended June 30, 1853.

Month.	Received.	Sent.	Amount.
July, 1852	$28,117 83	$17,308 65	$45,426 48
August, 1852	22,725 61	21,709 65	44,435 26
September, 1852	27,178 28	17,581 89	44,760 17
	78,021 72	56,600 19	134,621 91
October, 1852	22,718 98	17,563 78	40,282 76
November, 1852	22,262 90	17,598 84	39,861 74
December, 1852	24,921 02	28,430 46	53,351 48
	69,902 90	63,593 08	133,495 98
January, 1853	33,164 19	22,412 45	55,576 64
February, 1853	30,620 45	23,375 16	53,995 61
March, 1853	28,539 97	25,005 72	53,545 69
	92,324 61	70,793 33	163,117 94
April, 1853	31,909 60	19,925 47	51,835 07
May, 1853	23,812 88	18,918 87	42,731 75
June, 1853	29,228 62	23,002 12	52,230 74
	84,951 10	61,846 46	146,797 56

RECAPITULATION.

Quarter.	Received.	Sent.	Amount.
3d quarter, 1852	$78,021 72	$56,600 19	$134,621 91
4th quarter, 1852	69,902 90	63,593 08	133,495 98
1st quarter, 1853	92,324 61	70,793 33	163,117 94
2d quarter, 1853	84,951 10	61,846 46	146,797 56
	325,200 33	252,833 06	578,033 39

[B.]—*Newspaper postage by the Cunard line during the fiscal year ended June* 30, 1853.

Month.	Number sent.	Number received.	Total.	Postage.
July, 1852	27,747	50,741	78,488	
August, 1852	41,287	38,780	80,067	
September, 1852	38,798	49,160	87,958	
	107,832	138,681	246,513	At 2 cents, $4,930 26.
October, 1852	35,688	42,174	77,862	
November, 1852	27,616	39,562	67,178	
December, 1852	37,870	56,625	94,495	
	101,174	138,361	239,535	At 2 cents, 4,790 70.
January, 1853	35,576	60,946	96,522	
February, 1853	37,755	46,494	84,249	
March, 1853	43,799	58,086	101,885	
	117,130	165,526	282,656	At 2 cents, 5,653 12.
April, 1853	32,954	57,776	90,730	
May, 1853	37,601	49,330	86,931	
June, 1853	38,492	49,306	87,798	
	109,047	156,412	265,459	At 2 cents, 5,309 18.

RECAPITULATION.

Quarter.	Number sent.	Number received.	Total.	Postage.
3d quarter, 1852	107,832	138,681	246,513	
4th quarter, 1852	101,174	138,361	239,535	
1st quarter, 1853	117,130	165,526	282,656	
2d quarter, 1853	109,047	156,412	265,459	
	435,183	598,980	1,034,163	At 2 cents, $20,683 26.

[C.]

Closed mails in transit through the United States, conveyed by the Cunard line during the fiscal year ended June 30, 1853.

	Ounces.	Rate.	Amount.
Third quarter, 1852.			
		Cents.	
From Canada	22,752¼	12½	$2,844 06
To Canada	19,592½	12½	2,449 06
From California	912½	25	228 13
To California	1,219	25	304 75
To Havana	758	25	189 50
Newspapers	170,073	2	3,401 46
			9,416 95
Fourth quarter, 1852.			
From Canada	17,858½	12½	2,232 28
To Canada	16,953¾	12½	2,119 21
From California	900	25	225 00
To California	1,425	25	356 25
To Havana	689	25	172 25
Newspapers	159,543	2	3,190 86
			8,295 85
First quarter, 1853.			
From Canada	20,835½	12½	2,604 43¾
To Canada	24,186¼	12½	3,023 31¼
From California	701½	25	175 37½
To California	1,454	25	363 50
To Havana	856	25	214 00
Newspapers	165,576	2	3,311 52
			9,692 14½
Second quarter, 1853.			
From Canada	22,944½	12½	2,868 06
To Canada	22,636	12½	2,829 50
From California	1,183	25	295 75
To California	2,119½	25	529 87½
To Havana	708½	25	177 12½
Newspapers	185,307	2	3,706 14
	180,685½		10,406 45

RECAPITULATION.

Third quarter, 1852	$9,416 95
Fourth quarter, 1852	8,295 85
First quarter, 1853	9,692 14½
Second quarter, 1853	10,406 45
Total credit of United States	37,811 39½

[D.]

:men and Prussian closed mails in transit through the United Kingdom during the fiscal year ended June 30, 1853.

	Ounces.	Rate.	Amount.
Third quarter, 1852.			
		Cents.	
a Bremen	10,726	30	$3,217 80
Bremen	13,103	30	3,930 90
			7,148 70
Fourth quarter, 1852.			
a Bremen	9,803	30	2,940 90
Bremen	3,980	30	1,194 00
a Prussia, by United States packet	2,356	25½	600 78
a Prussia, by British packet	2,480	65½	1,624 40
'russia, by United States packet	11,003	17½	1,925 52½
'russia, by British packet	12,699½	57½	7,302 21¼
spapers 5,601		2	112 02
			15,699 83¾
First quarter, 1853.			
a Bremen	15,451	30	4,635 30
a Prussia, by United States packet	3,166	25½	807 33
a Prussia, by British packet	4,597	65½	3,011 03½
'russia, by United States packet	20,216½	17½	3,537 89
'russia, by British packet	24,209¾	57½	13,920 60½
spapers 12,223		2	244 66
			26,156 82
Second quarter, 1853.			
a Prussia, by United States packet	5,294	25½	1,349 46
a Prussia, by British packet	4,905	65½	3,212 77½
russia, by United States packet	21,928	17½	3,837 40
russia, by British packet	21,560¼	57½	12,397 14¼
spapers 14,848		2	296 96
			21,093 73¾

RECAPITULATION.

l quarter, 1852	$7,148 70
th quarter, 1852	15,699 83¾
quarter, 1853	26,156 82
d quarter, 1853	21,093 73¾
Total debit of United States	70,099 09½

[E.]

Correspondence between the United States and the United Kingdom of Great Britain and Ireland for the fiscal year ended June 30, 1853.

	Received.	Sent.	Total.
By the Cunard line	$325,200 33	$252,833 06	$578,033 39
By the Collins line	106,065 49	127,207 60	233,273 09
By the Bremen line	23,612 72	33,439 25	57,051 97
By the Havre line	22,387 18	31,036 44	53,423 62
	477,265 72	444,516 35	921,782 07

RECAPITULATION.

	Received.	Sent.	Total.
By United States packets	$152,065 39	$191,683 29	$343,748 68
By British packets	325,200 33	252,833 06	578,033 39
	477,265 72	444,516 35	921,782 07

United States revenue under the postal treaty with Great Britain for the fiscal year ended June 30, 1853.

Gross amount of letter postages by United States packets with British and United States inland rates, inclusive, as per statement E	$343,748 68
Deduct British inland, three twenty-fourths	42,968 58
	300,780 10
Add United States inland on $578,033 39, conveyed by British packets, as per statement E, five twenty-fourths	120,423 60
Add newspaper postages, as per statement B	6,118 90
Add for British closed mails in transit through United States by Cunard line, as per statement C	37,811 39
for British closed mails in transit through United States by Collins line, as per statement C	4,670 80
	469,804 79

Correspondence between the United States and Prussia, from October 16, 1852, to June 30, 1853.

Steamers.	Received.	Sent.	Total.
By the Cunard line	$11,174 36	$56,027 54	$67,201 90
By the Collins line	3,106 56	39,479 33	42,585 89
By the Bremen line	163 50	7,600 54	7,764 04
By the Havre line	2,537 53	3,948 43	6,485 96
	16,981 95	107,055 84	124,037 79

RECAPITULATION.

Packets.	Received.	Sent.	Total.
By British packets	$11,174 36	$56,027 54	$67,201 90
By United States packets	5,807 59	51,028 30	56,835 89
	16,981 95	107,055 84	124,037 79

Letter postages collected in the United States and Prussia, respectively, from October 16, 1852, to June 30, 1853, under the postal convention of August 26, 1852.

Amount prepaid sent from the United States	$32,317 91	
Amount unpaid received from Prussia	11,749 81	
		$44,067 72
Amount unpaid sent from United States	69,498 12	
Amount paid received from Prussia	10,471 95	
		79,970 07
		124,037 79

RECAPITULATION.

Paid and unpaid sent from the United States		101,816 03
United States inland and sea rates, twenty-three thirtieths	78,059 00	
Prussian inland rate, seven thirtieths	23,757 03	
		101,816 03
Paid and unpaid received from Prussia		22,221 76
United States sea and inland rates, twenty-five thirtieths	18,518 14	
Prussian inland rate, five thirtieths	3,703 62	
		22,221 76
Total United States	96,577 14	
Total Prussia	27,460 65	
		124,037 79

Receipts and disbursements on closed mails between the United States and the Kingdom of Prussia from the 16th October, 1852, to 30th June, 1853, inclusive.

RECEIPTS.

Net letter postage	$96,577 14	
Net newspaper postage, 33,155, at 4 cents	1,326 20	
		$97,903 34

DISBURSEMENTS.

Amount paid Great Britain for transportation of Prussian closed mails	54,180 19	
Estimated commissions paid United States postmasters on paid sent, and unpaid received—say 25 per cent. on $44,067 72	11,016 93	
Commissions paid postmasters on newspapers—say 50 per cent. on $1,326 20	663 10	
		65,860 22
Net balance in favor of United States		32,043 12

This balance is distributable as follows:

Collins line, for carrying 40,839 ounces Prussian mails, at 40 cents.	16,335 60	
Collins line, for carrying 8,661 newspapers, at 2 cents	173 22	
New York and Bremen line, for carrying 11,510 ounces Prussian mails, at 40 cents	4,604 00	
New York and Bremen line, for carrying 1,595 newspapers, at 2 cents	31 90	
New York and Havre line, for carrying 11,639 ounces Prussian mails, at 40 cents	4,655 60	
New York and Havre line, for carrying 2,190 newspapers, at 2 cents	43 80	
		25,844 12
Net revenue to United States		6,199 00

Postages by the New York, Chagres, and California line during the fiscal year ended June 30, 1853.

Month.	Sent.	Received.	Total.
July, 1852	$8,353 99	$7,442 50	$15,796 49
August, 1852	9,869 23	11,160 47	21,029 70
September, 1852	9,737 57	5,994 86	15,732 43
	27,960 79	24,597 83	52,558 62
October, 1852	9,076 38	17,233 80	26,310 18
November, 1852	10,206 35	11,326 31	21,532 66
December, 1852	10,765 36	7,588 89	18,354 25
	30,048 09	36,149 00	66,197 09
January, 1853	11,790 20	10,960 66	22,750 86
February, 1853	12,395 99	8,379 37	20,775 36
March, 1853	12,842 26	17,747 52	30,589 78
	37,028 45	37,087 55	74,116 00
April, 1853	13,693 31	13,423 93	27,117 24
May, 1853	12,049 89	9,900 21	21,950 10
June, 1853	9,404 91	11,793 62	21,198 53
	35,148 11	35,117 76	70,265 87

RECAPITULATION.

Quarter.	Sent.	Received.	Total.
3d quarter, 1852	$27,960 79	$24,597 83	$52,558 62
4th quarter, 1852	30,048 09	36,149 00	66,197 09
1st quarter, 1853	37,028 45	37,087 55	74,116 00
2d quarter, 1853	35,148 11	35,117 76	70,265 87
	130,185 44	132,952 14	263,137 58

Postages by the Charleston and Havana line during the fiscal year ended June 30, 1853.

Month.	Sent.	Received.	Total.
July, 1852	$200 66	$468 32	$668 98
August, 1852	192 14	374 70	566 84
September, 1852	104 83	24 74	129 57
	497 03	867 76	1,364 79
October, 1852	130 42	159 53	289 95
November, 1852	215 98	369 43	585 41
December, 1852	187 89	363 92	551 81
	534 29	892 88	1,427 17
January, 1853	231 21	744 47	975 68
February, 1853	148 52	662 42	810 94
March, 1853	171 70	636 72	808 42
	551 43	2,043 61	2,595 04
April, 1853	138 20	953 26	1,091 46
May, 1853	114 41	803 34	917 75
June, 1853	128 28	421 14	549 42
	380 89	2,177 74	2,558 63

RECAPITULATION.

Quarter.	Total.
3d quarter, 1852	$1,364 79
4th quarter, 1852	1,427 17
1st quarter, 1853	2,595 04
2d quarter, 1853	2,558 63
	7,945 63

Postages by the New Orleans and Vera Cruz line from April 14 to June 30, 1853.

Month.	Received.	Sent.	Total.
April	$39 52	$121 04	$160 56
May	130 30	40 49	170 79
June	173 18	126 31	299 49
	343 00	287 84	630 84

mber of letters to and from continental Europe in transit through the United Kingdom for the fiscal year ended June 30, 1853.

Quarter.	Sent.	Received.	Total.
Third quarter, 1852.			
ard line	76,613	17,109	93,722
ins line	29,298	889	30,187
men line	1,308	286	1,594
re line	1,160	274	1,434
			126,937
Fourth quarter, 1852.			
ard line	66,497	12,816	79,313
ins line	28,252	828	29,080
men line	2,762	261	3,023
re line	252	161	413
			111,829
First quarter, 1853.			
ard line	54,343	13,589	67,932
ins line	29,884	1,015	30,899
men line	844	175	1,019
re line	176	208	384
			100,234
Second quarter, 1853.			
ard line	59,805	13,533	73,338
ns line	23,513	1,129	24,642
men line	4,526	228	4,754
re line	1,839	283	2,122
			104,856

RECAPITULATION.

	Sent.	Received.	Total.
ard line	257,258	57,047	314,305
ns line	111,947	3,861	115,808
men line	9,440	950	10,390
re line	3,427	926	4,353
Total			444,856

Closed mails from the United Kingdom to California by British West India mail packets to Panama, and thence by United States mail packets to San Francisco.

Quarter.	Number of papers.	Ounces.	Rate.	Total
			Cents.	
Third quarter, 1852		1,587	50	$793 50
Do	4,197		2	83 94
Fourth quarter, 1852		1,656	50	828 00
Do	5,045		2	100 90
First quarter, 1853		1,737	50	868 50
Do	5,020		2	100 40
Second quarter, 1853		1,752	50	876 00
Do	4,397		2	87 94
	18,659	6,732		3,739 18

Credit of the United States.

Number of trips made by the various lines of steamers to and from United States Atlantic ports during the fiscal year ended June 30, 1853.

Line of steamers.	To.	From.	Total.
Cunard	53	52	105
Collins	26	26	52
Bremen	11	11	22
Havre	12	12	24
New York, Chagres, and San Francisco	27	29	56
Charleston and Havana	23	23	46
New Orleans and Vera Cruz	5	5	10

B.

POSTAL ARRANGEMENT BETWEEN THE UNITED STATES AND THE WEST INDIES, &c.

Additional articles to the articles agreed upon between the Post Office of the United Kingdom of Great Britain and Ireland and the Post Office of the United States of America for carrying into execution the convention of December 15, 1848.

In pursuance of the power granted, by article 21 of the convention of December 15, 1848, between the United Kingdom of Great Britain and Ireland and the United States of America, to the two post offices, to settle the matters of detail, which are to be arranged by mutual consent, for insuring the execution of the stipulations contained in the said convention, the undersigned, duly authorized for that purpose by their respective offices, have agreed upon the following articles:

ARTICLE I. An exchange of mails shall hereafter take place between

he following offices, so long as the British and United States governments respectively shall deem it expedient to maintain a communication by packet between the several ports enumerated:

1. Between the post office of New York and the British packet office at St. Thomas,—by means of British mail packets.

2. Between the post office of New York and the post office of Kingston, (Jamaica;)

3. Between the post office of Charleston and the post office of Kingston;

4. Between the post office of Savannah and the post office of Kingston;

5. Between the post office of New Orleans and the post office of Kingston;

6. Between the post office of San Francisco and the post office of Kingston,—by means of United States mail packets.

ARTICLE II. In the event of the United States mail packets ceasing to call at Kingston, (Jamaica,) the mails to and from Kingston shall be landed and embarked at Havana, and, if permitted, shall be delivered over unopened by the United States consul to the British consul, or *vice versa*, and shall be conveyed between Havana and Kingston by British packets.

ARTICLE III. The mails forwarded from New York, Charleston, Savannah, New Orleans, and San Francisco, to St. Thomas and Jamaica, shall comprise the correspondence not only for those islands, but also for all the British and foreign ports at which the British mail packets in the West Indies touch.

ARTICLE IV. Reciprocally, the mails forwarded from Jamaica and St. Thomas to New York, Charleston, Savannah, New Orleans, and San Francisco, shall comprise the correspondence not only from those islands, but also from all the British and foreign ports at which the British mail packets in the West Indies touch.

ARTICLE V. Upon every letter not exceeding half an ounce in weight despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to St. Thomas or Kingston, and addressed to one of the foreign ports at which the British mail packets in the West Indies touch, the United States post office shall account to the British post office for the sum of one shilling, or twenty-four cents, and so on in proportion according to the scale of postage now established in the United Kingdom.

ARTICLE VI. For every newspaper despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to St. Thomas or Kingston, and addressed to one of the foreign ports at which the British mail packets in the West Indies touch, the United States post office shall account to the British post office for the sum of twopence, or four cents.

ARTICLE VII. Every mail despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to St. Thomas or Kingston, shall be accompanied by a letter-bill.

The office to which the mail is addressed shall return by the next post an acknowledgment of receipt to the office from which it was transmitted.

The letter-bills and acknowledgments of receipt shall be made out according to the forms (A and B) agreed upon, and annexed to the present articles.

ARTICLE VIII. If it should happen, at the usual period for making up the mails, that there should not be any letter or other correspondence from either of the offices of exchange, a blank letter-bill shall, nevertheless, be forwarded to the corresponding office.

ARTICLE IX. The letter-bills and acknowledgments of receipt shall serve as vouchers to the quarterly account.

If, in checking the mails transmitted to the respective offices of exchange, the amount of postage shall be found to differ from that entered in the letter-bill by the despatching office, such amount shall be checked by two officers, and the corrected amount, which is entered by them on the verification side of the letter-bill, shall be accepted as the true amount.

ARTICLE X. The amount due to the British office for the correspondence transmitted under the regulations now agreed upon shall be placed to the credit of the United Kingdom in the general account between the post office of the United Kingdom and the post office of the United States prepared quarterly in the General Post Office, London.

ARTICLE XI. The present articles shall be considered as additional to those agreed upon between the two offices for carrying into execution the convention of December 15, 1848, signed at Washington the 14th May, 1849, and shall come into operation on the fifteenth day of January, one thousand eight hundred and fifty-three.

Done in duplicate and signed at Washington on the third day of December, one thousand eight hundred and fifty-two, and at London on the twenty-seventh day of December, one thousand eight hundred and fifty-two.

HORATIO KING.
W. L. MABERLY.

Approved:
S. D. HUBBARD.

Approved:
HARDWICKE.

Letter bill for the correspondence between the United States and the West Indies, &c.

Mail from ———— to ————, by ———— packet.

Post Office, ————, 185 .

The following articles are herewith sent, the receipt of which it is requested may be acknowledged:

Article.	1. Paid letters, &c., to be placed to the credit of the British office.	Statement by the United States office.		Verification by the British office.	
		Dollars.	*Cents.*	*Dollars.*	*Cents.*
	Paid letters from the United States for foreign ports				
	Paid newspapers from the United States for foreign ports				
	Total				
	2. Letters, newspapers, &c., which form no charge between the two offices.			Number.	
1	Unpaid letters from the United States for British colonies, &c.				
2	Newspapers from the United States for British colonies, &c.				

————, *Postmaster of* ————

[B.]

Acknowledgment of receipt for the correspondence between the United States and the West Indies, &c.

The mail from _____ to _____ by the packet of the _____ of _____, 185 , has been received, POST OFFICE, _____, 185 .

containing the following articles, viz:

Article.	1. Paid letters, &c., to be placed to the credit of the British office.	Statement by the United States office.		Verification by the British office.	
		Dollars.	*Cents.*	*Dollars.*	*Cents.*
1	Paid letters from the United States for foreign ports				
2	Paid newspapers from the United States for foreign ports				
	Total				
	2. Newspapers, &c., which form no account between the two offices.			Number.	
1	Unpaid letters from the United States for British colonies, &c				
2	Newspapers from the United States for British colonies, &c				

_____, *Postmaster, or Packet Agent.*

Additional articles to the articles agreed upon between the Post Office of the United States of America and the Post Office of the United Kingdom of Great Britain and Ireland for carrying into execution the convention of December 15, 1848.

In pursuance of the power granted by article twenty-one of the convention of December 15, 1848, between the United Kingdom of Great Britain and Ireland and the United States of America, to the two post offices, to settle the matters of detail, which are to be arranged by mutual consent, for insuring the execution of the stipulations contained in the said convention, the undersigned, duly authorized for that purpose by their respective offices, have agreed upon the following articles:

ARTICLE I. Upon every letter not exceeding half an ounce in weight despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to Kingston, (Jamaica,) by United States mail packets, and addressed to any of the Danish colonies in the West Indies, the United States post office shall account to the British post office for the sum of fourpence, or eight cents, and so on in proportion according to the scale of postage now established in the United Kingdom.

ARTICLE II. The amount due to the British post office for the letters addressed to the Danish colonies in the West Indies, forwarded from the United States via Jamaica, under the regulations now agreed upon, shall be entered on the letter-bill for Kingston, accompanying the mail by which such letters are sent, and shall be placed to the credit of the United Kingdom in the general account between the post office of the United Kingdom and the post office of the United States, prepared quarterly in the General Post Office, London.

ARTICLE III. The present articles shall be considered as additional to those agreed upon between the two offices for carrying into execution the convention of 15th December, 1848, signed at Washington the 14th May, 1849, and shall come into operation on the first day of June, one thousand eight hundred and fifty-three.

Done in duplicate, and signed at Washington on the nineteenth day of May, one thousand eight hundred and fifty-three, and at London on the third day of June, one thousand eight hundred and fifty-three.

W. L. MABERLY.
HORATIO KING.

Approved:
CANNING.

Approved:
JAMES CAMPBELL,
Postmaster General.

C.

POSTAL ARRANGEMENT BETWEEN THE UNITED STATES AND THE WEST COAST OF SOUTH AMERICA.

Additional articles to the articles agreed upon between the Post Office of the United Kingdom of Great Britain and Ireland and the Post Office of the United States of America for carrying into execution the convention of December 15, 1848.

In pursuance of the power granted by article 21 of the convention of December 15, 1848, between the United Kingdom of Great Britain and Ireland and the United States of America, to the two post offices, to settle the matters of detail, which are to be arranged by mutual consent, for insuring the execution of the stipulations contained in the said convention, the undersigned, duly authorized for that purpose by their respective offices, have agreed upon the following articles:

ARTICLE I. An exchange of mails shall hereafter take place between the following offices, viz:

1. Between the post office of New York and the British packet office at Panama.
2. Between the post office of Charleston and the British packet office at Panama.
3. Between the post office of Savannah and the British packet office at Panama.
4. Between the post office of New Orleans and the British packet office at Panama.
5. Between the post office of San Francisco and the British packet office at Panama.

The transmission of these mails between the several ports above mentioned and Panama will be provided for by the United States government.

ARTICLE II. The mails forwarded from New York, Charleston, Savannah, New Orleans, and San Francisco, to Panama, shall comprise the correspondence for all the foreign ports on the western coast of South America at which the British mail packets in the Pacific touch.

ARTICLE III. Reciprocally, the mails forwarded from Panama to New York, Charleston, Savannah, New Orleans, and San Francisco, shall comprise the correspondence for the United States from all the foreign ports on the western coast of South America at which the British mail packets in the Pacific touch.

ARTICLE IV. Upon every letter not exceeding half an ounce in weight, despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to Panama, and addressed to the several States on the western coast of South America at the ports of which the British mail packets touch, the United States post office shall account to the British post office for the following rates of postage, viz:

1. Upon a letter for Buenaventura, in New Grenada, 4*d.*, or 8 cents, (so long as the existing postal convention between Great Britain and New Grenada shall continue in force.)
2. Upon a letter for any port in the republic of Peru, 6*d.*, or 12 cents, (so long as the existing postal convention between Great Britain and Peru shall continue in force.)

3. Upon a letter for any other port on the western coast of South America, excepting those above mentioned, 1*s.*, or 24 cents.

And these rates of postage shall increase in proportion for heavier letters, according to the scale of postage now established in the United Kingdom.

ARTICLE V. For every newspaper despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to Panama, and addressed to any of the States on the western coast of South America at the ports of which the British mail packets touch, the United States post office shall account to the British post office for the sum of twopence, or four cents.

ARTICLE VI. Every mail despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to Panama, shall be accompanied by a letter-bill.

The office to which the mail is addressed shall return, by the next post, an acknowledgment of receipt to the office from which it was transmitted.

The letter-bill and acknowledgments of receipt shall be made out according to the forms (A and B) agreed upon and annexed to the present articles.

ARTICLE VII. If it should happen at the usual period for making up the mails that there should not be any letter or other correspondence from either of the offices of exchange, a blank letter-bill shall, nevertheless, be forwarded to the corresponding office.

ARTICLE VIII. The letter-bills and acknowledgments of receipt shall serve as vouchers to the quarterly account.

If, in checking the mails transmitted to the packet office at Panama, the amount of postage shall be found to differ from that entered in the letter-bill by the despatching office, such amount shall be checked by two officers, and the corrected amount which is entered by them on the verification side of the letter-bill shall be accepted as the true amount.

ARTICLE IX. The amount due to the British office for the correspondence transmitted under the regulations now agreed upon shall be placed to the credit of the United Kingdom, in the general account between the post office of the United Kingdom and the post office of the United States, prepared quarterly in the General Post Office, London.

ARTICLE X. The present articles shall be considered as additional to those agreed upon between the two offices for carrying into execution the convention of 15th December, 1848, signed at Washington the 14th May, 1849, and shall come into operation on the first day of October, one thousand eight hundred and fifty-three.

Done in duplicate, and signed at Washington on the tenth day of August, and at London on the seventh day of September, one thousand eight hundred and fifty-three.

HORATIO KING.
J. TILLEY.

Approved:
JAMES CAMPBELL,
Postmaster General.
CANNING.

A.—*Letter-bill for the correspondence between the United States and the western coast of South America.*

Mail from _____ _____ to Panama, by _____ _____ packet.

POST OFFICE, _____, 185 .

The following articles are herewith sent, the receipt of which it is requested may be acknowledged:

Article.	§ I. Paid letters, &c., to be placed to the credit of the British office.	Statement by the United States office.		Verification by the British office.	
		Dollars.	*Cents.*	*Dollars.*	*Cents.*
1	Paid letters from the United States for foreign ports.....				
2	Paid newspapers from the United States for foreign ports.....				
	Total.....				

Postmaster of _____.

B.—*Acknowledgment of receipt for the correspondence between the United States and the western coast of* [illegible]

BRITISH PACKET OFFICE, *Panama*, ————————, 185 .

The mail from ———————— to Panama, by the ———————— packet of the ———————— of ————————, 185 , has been received, containing the following articles, viz:

Article.	§ I. Paid letters, &c., to be placed to the credit of the British office.	Statement by the United States office.		Verification by the British office.	
		Dollars.	*Cents.*	*Dollars.*	*Cents.*
1	Paid letters from the United States for foreign ports				
2	Paid newspapers from the United States for foreign ports				
	Total.....				

———————— ————————, *Packet Agent.*

Closed mails from the United Kingdom to California by British West India mail packets to Panama, and thence by United States mail packets to San Francisco.

Quarter.	Number of papers.	Ounces.	Rate.	Total
			Cents.	
Third quarter, 1852	.....	1,587	50	$793 50
Do	4,197	.....	2	83 94
Fourth quarter, 1852	.....	1,656	50	828 00
Do	5,045	.....	2	100 90
First quarter, 1853	.....	1,737	50	868 50
Do	5,020	.....	2	100 40
Second quarter, 1853	.....	1,752	50	876 00
Do	4,397	.....	2	87 94
	18,659	6,732		3,739 18

Credit of the United States.

Number of trips made by the various lines of steamers to and from United States Atlantic ports during the fiscal year ended June 30, 1853.

Line of steamers.	To.	From.	Total.
Cunard	53	52	105
Collins	26	26	52
Bremen	11	11	22
Havre	12	12	24
New York, Chagres, and San Francisco	27	29	56
Charleston and Havana	23	23	46
New Orleans and Vera Cruz	5	5	10

B.

POSTAL ARRANGEMENT BETWEEN THE UNITED STATES AND THE WEST INDIES, &c.

Additional articles to the articles agreed upon between the Post Office of the United Kingdom of Great Britain and Ireland and the Post Office of the United States of America for carrying into execution the convention of December 15, 1848.

In pursuance of the power granted, by article 21 of the convention of December 15, 1848, between the United Kingdom of Great Britain and Ireland and the United States of America, to the two post offices, to settle the matters of detail, which are to be arranged by mutual consent, for insuring the execution of the stipulations contained in the said convention, the undersigned, duly authorized for that purpose by their respective offices, have agreed upon the following articles:

ARTICLE I. An exchange of mails shall hereafter take place between

the following offices, so long as the British and United States governments respectively shall deem it expedient to maintain a communication by packet between the several ports enumerated:

1. Between the post office of New York and the British packet office at St. Thomas,—by means of British mail packets.

2. Between the post office of New York and the post office of Kingston, (Jamaica;)

3. Between the post office of Charleston and the post office of Kingston;

4. Between the post office of Savannah and the post office of Kingston;

5. Between the post office of New Orleans and the post office of Kingston;

6. Between the post office of San Francisco and the post office of Kingston,—by means of United States mail packets.

ARTICLE II. In the event of the United States mail packets ceasing to call at Kingston, (Jamaica,) the mails to and from Kingston shall be landed and embarked at Havana, and, if permitted, shall be delivered over unopened by the United States consul to the British consul, or *vice versa*, and shall be conveyed between Havana and Kingston by British packets.

ARTICLE III. The mails forwarded from New York, Charleston, Savannah, New Orleans, and San Francisco, to St. Thomas and Jamaica, shall comprise the correspondence not only for those islands, but also for all the British and foreign ports at which the British mail packets in the West Indies touch.

ARTICLE IV. Reciprocally, the mails forwarded from Jamaica and St. Thomas to New York, Charleston, Savannah, New Orleans, and San Francisco, shall comprise the correspondence not only from those islands, but also from all the British and foreign ports at which the British mail packets in the West Indies touch.

ARTICLE V. Upon every letter not exceeding half an ounce in weight despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to St. Thomas or Kingston, and addressed to one of the foreign ports at which the British mail packets in the West Indies touch, the United States post office shall account to the British post office for the sum of one shilling, or twenty-four cents, and so on in proportion according to the scale of postage now established in the United Kingdom.

ARTICLE VI. For every newspaper despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to St. Thomas or Kingston, and addressed to one of the foreign ports at which the British mail packets in the West Indies touch, the United States post office shall account to the British post office for the sum of twopence, or four cents.

ARTICLE VII. Every mail despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to St. Thomas or Kingston, shall be accompanied by a letter-bill.

The office to which the mail is addressed shall return by the next post an acknowledgment of receipt to the office from which it was transmitted.

The letter-bills and acknowledgments of receipt shall be made out according to the forms (A and B) agreed upon, and annexed to the present articles.

ARTICLE VIII. If it should happen, at the usual period for making up the mails, that there should not be any letter or other correspondence from either of the offices of exchange, a blank letter-bill shall, nevertheless, be forwarded to the corresponding office.

ARTICLE IX. The letter-bills and acknowledgments of receipt shall serve as vouchers to the quarterly account.

If, in checking the mails transmitted to the respective offices of exchange, the amount of postage shall be found to differ from that entered in the letter-bill by the despatching office, such amount shall be checked by two officers, and the corrected amount, which is entered by them on the verification side of the letter-bill, shall be accepted as the true amount.

ARTICLE X. The amount due to the British office for the correspondence transmitted under the regulations now agreed upon shall be placed to the credit of the United Kingdom in the general account between the post office of the United Kingdom and the post office of the United States prepared quarterly in the General Post Office, London.

ARTICLE XI. The present articles shall be considered as additional to those agreed upon between the two offices for carrying into execution the convention of December 15, 1848, signed at Washington the 14th May, 1849, and shall come into operation on the fifteenth day of January, one thousand eight hundred and fifty-three.

Done in duplicate and signed at Washington on the third day of December, one thousand eight hundred and fifty-two, and at London on the twenty-seventh day of December, one thousand eight hundred and fifty-two.

HORATIO KING.
W. L. MABERLY.

Approved:
S. D. HUBBARD.

Approved:
HARDWICKE.

[A.]

Letter bill for the correspondence between the United States and the West Indies, &c.

Mail from ——— to ———, by ——— packet.

Post Office, ———, 185 .

The following articles are herewith sent, the receipt of which it is requested may be acknowledged:

Article.	1. Paid letters, &c., to be placed to the credit of the British office.	Statement by the United States office.		Verification by the British office.	
		Dollars.	*Cents.*	*Dollars.*	*Cents.*
	Paid letters from the United States for foreign ports				
	Paid newspapers from the United States for foreign ports				
	Total				
	2. Letters, newspapers, &c., which form no charge between the two offices.			Number.	
1	Unpaid letters from the United States for British colonies, &c				
2	Newspapers from the United States for British colonies, &c				

———, *Postmaster of* ———

[B.]

Acknowledgment of receipt for the correspondence between the United States and the West Indies, &c.

POST OFFICE, ————, 185 .

The mail from ———— to ———— by the packet of the ———— of ————, 185 , has been received, containing the following articles, viz:

Article.	1. Paid letters, &c., to be placed to the credit of the British office.	Statement by the United States office.		Verification by the British office.	
		Dollars.	*Cents.*	*Dollars.*	*Cents.*
1	Paid letters from the United States for foreign ports				
2	Paid newspapers from the United States for foreign ports				
	Total				
	2. Newspapers, &c., which form no account between the two offices.			Number.	
1	Unpaid letters from the United States for British colonies, &c				
2	Newspapers from the United States for British colonies, &c				

————————, *Postmaster, or Packet Agent.*

Additional articles to the articles agreed upon between the Post Office of the United States of America and the Post Office of the United Kingdom of Great Britain and Ireland for carrying into execution the convention of December 15, 1848.

In pursuance of the power granted by article twenty-one of the convention of December 15, 1848, between the United Kingdom of Great Britain and Ireland and the United States of America, to the two post offices, to settle the matters of detail, which are to be arranged by mutual consent, for insuring the execution of the stipulations contained in the said convention, the undersigned, duly authorized for that purpose by their respective offices, have agreed upon the following articles:

ARTICLE I. Upon every letter not exceeding half an ounce in weight despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to Kingston, (Jamaica,) by United States mail packets, and addressed to any of the Danish colonies in the West Indies, the United States post office shall account to the British post office for the sum of fourpence, or eight cents, and so on in proportion according to the scale of postage now established in the United Kingdom.

ARTICLE II. The amount due to the British post office for the letters addressed to the Danish colonies in the West Indies, forwarded from the United States via Jamaica, under the regulations now agreed upon, shall be entered on the letter-bill for Kingston, accompanying the mail by which such letters are sent, and shall be placed to the credit of the United Kingdom in the general account between the post office of the United Kingdom and the post office of the United States, prepared quarterly in the General Post Office, London.

ARTICLE III. The present articles shall be considered as additional to those agreed upon between the two offices for carrying into execution the convention of 15th December, 1848, signed at Washington the 14th May, 1849, and shall come into operation on the first day of June, one thousand eight hundred and fifty-three.

Done in duplicate, and signed at Washington on the nineteenth day of May, one thousand eight hundred and fifty-three, and at London on the third day of June, one thousand eight hundred and fifty-three.

W. L. MABERLY.
HORATIO KING.

Approved:
CANNING.

Approved:
JAMES CAMPBELL,
Postmaster General.

C.

POSTAL ARRANGEMENT BETWEEN THE UNITED STATES AND THE WEST COAST OF SOUTH AMERICA.

Additional articles to the articles agreed upon between the Post Office of the United Kingdom of Great Britain and Ireland and the Post Office of the United States of America for carrying into execution the convention of December 15, 1848.

In pursuance of the power granted by article 21 of the convention of December 15, 1848, between the United Kingdom of Great Britain and Ireland and the United States of America, to the two post offices to settle the matters of detail, which are to be arranged by mutual consent, for insuring the execution of the stipulations contained in the said convention, the undersigned, duly authorized for that purpose by their respective offices, have agreed upon the following articles:

ARTICLE I. An exchange of mails shall hereafter take place between the following offices, viz:

1. Between the post office of New York and the British packet office at Panama.
2. Between the post office of Charleston and the British packet office at Panama.
3. Between the post office of Savannah and the British packet office at Panama.
4. Between the post office of New Orleans and the British packet office at Panama.
5. Between the post office of San Francisco and the British packet office at Panama.

The transmission of these mails between the several ports above mentioned and Panama will be provided for by the United States government.

ARTICLE II. The mails forwarded from New York, Charleston, Savannah, New Orleans, and San Francisco, to Panama, shall comprise the correspondence for all the foreign ports on the western coast of South America at which the British mail packets in the Pacific touch.

ARTICLE III. Reciprocally, the mails forwarded from Panama to New York, Charleston, Savannah, New Orleans, and San Francisco, shall comprise the correspondence for the United States from all the foreign ports on the western coast of South America at which the British mail packets in the Pacific touch.

ARTICLE IV. Upon every letter not exceeding half an ounce in weight, despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to Panama, and addressed to the several States on the western coast of South America at the ports of which the British mail packets touch, the United States post office shall account to the British post office for the following rates of postage, viz:

1. Upon a letter for Buenaventura, in New Grenada, 4*d.*, or 8 cents, (so long as the existing postal convention between Great Britain and New Grenada shall continue in force.)
2. Upon a letter for any port in the republic of Peru, 6*d.*, or 12 cents, (so long as the existing postal convention between Great Britain and Peru shall continue in force.)

3. Upon a letter for any other port on the western coast of South America, excepting those above mentioned, 1*s.*, or 24 cents.

And these rates of postage shall increase in proportion for heavier letters, according to the scale of postage now established in the United Kingdom.

ARTICLE V. For every newspaper despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to Panama, and addressed to any of the States on the western coast of South America at the ports of which the British mail packets touch, the United States post office shall account to the British post office for the sum of twopence, or four cents.

ARTICLE VI. Every mail despatched from New York, Charleston, Savannah, New Orleans, or San Francisco, to Panama, shall be accompanied by a letter-bill.

The office to which the mail is addressed shall return, by the next post, an acknowledgment of receipt to the office from which it was transmitted.

The letter-bill and acknowledgments of receipt shall be made out according to the forms (A and B) agreed upon and annexed to the present articles.

ARTICLE VII. If it should happen at the usual period for making up the mails that there should not be any letter or other correspondence from either of the offices of exchange, a blank letter-bill shall, nevertheless, be forwarded to the corresponding office.

ARTICLE VIII. The letter-bills and acknowledgments of receipt shall serve as vouchers to the quarterly account.

If, in checking the mails transmitted to the packet office at Panama, the amount of postage shall be found to differ from that entered in the letter-bill by the despatching office, such amount shall be checked by two officers, and the corrected amount which is entered by them on the verification side of the letter-bill shall be accepted as the true amount.

ARTICLE IX. The amount due to the British office for the correspondence transmitted under the regulations now agreed upon shall be placed to the credit of the United Kingdom, in the general account between the post office of the United Kingdom and the post office of the United States, prepared quarterly in the General Post Office, London.

ARTICLE X. The present articles shall be considered as additional to those agreed upon between the two offices for carrying into execution the convention of 15th December, 1848, signed at Washington the 14th May, 1849, and shall come into operation on the first day of October, one thousand eight hundred and fifty-three.

Done in duplicate, and signed at Washington on the tenth day of August, and at London on the seventh day of September, one thousand eight hundred and fifty-three.

HORATIO KING.
J. TILLEY.

Approved:
JAMES CAMPBELL,
Postmaster General.
CANNING.

A.—*Letter-bill for the correspondence between the United States and the western coast of South America.*

Mail from ———— ———— to Panama, by ———— ———— packet.

POST OFFICE, ————, 185 .

The following articles are herewith sent, the receipt of which it is requested may be acknowledged:

Article.	§ I. Paid letters, &c., to be placed to the credit of the British office.	Statement by the United States office.		Verification by the British office.	
		Dollars.	*Cents.*	*Dollars.*	*Cents.*
1	Paid letters from the United States for foreign ports.....				
2	Paid newspapers from the United States for foreign ports.....				
	Total.....				

Postmaster of ————.

BRITISH PACKET OFFICE, *Panama*, ——————, 185 .

The mail from —————— to Panama, by the —————— packet of the —————— of ——————, 185 , has been received, containing the following articles, viz:

Article.	§ I. Paid letters, &c., to be placed to the credit of the British office.	Statement by the United States office.		Verification by the British office.	
		Dollars.	*Cents.*	*Dollars.*	*Cents.*
1	Paid letters from the United States for foreign ports				
2	Paid newspapers from the United States for foreign ports				
	Total				

—————— ——————, *Packet Agent.*

D.

POSTAL CONVENTION BETWEEN THE UNITED STATES AND BREMEN.

Additional articles agreed upon between the Post Office Department of the United States and the Post Office Department of the Hanseatic Republic of Bremen, modifying the arrangement entered into by said Post Departments in 1847, for the reciprocal receipt and delivery of mails to be conveyed by the United States and Bremen lines of steamers, direct, between New York and Bremenhaven.

ARTICLE 1. The post office of New York shall be the United States office of exchange, and Bremen the office of exchange of that republic, for all mails transmitted under this arrrangement.

ART. 2. The international correspondence, conveyed either by United States or by Bremen steamers, as hereinafter stated, between the United States, or its Territories, and Bremen, will be subject to the following postage charges, viz:

Postage on each letter or packet not exceeding half an ounce in weight	10 cents.
Above have an ounce and not over one ounce	20 "
Above one ounce, but not exceeding two ounces	40 "

And the postage will increase in this scale of progression, to wit: Additional 20 cents for each additional ounce, or fraction of an ounce.

Payment in advance shall be optional in either country. It shall not, however, be permitted to pay less than the whole rate; and no account shall be taken of the prepayment of any fraction of that rate.

ART. 3. All the States belonging to the German-Austrian Postal Union, respectively, are to have the advantage of the rate of ten cents, established by the preceding article, (2d,) whenever their postage to and from Bremen, for letters to and from the United States, shall be reduced to the uniform rate of five cents, or less. On all correspondence for or from such of said States as shall not so reduce their rates, the charge between the United States and Bremen, by either of the two lines, will be fifteen cents the single rate.

And optional prepayment, a regular progressive scale. &c., upon the same principles as in article 2d, shall be admitted and observed.

ART. 4. On all letters originating and posted in other countries beyond the United States, and mailed to, and deliverable in, Bremen, or originating and posted in countries beyond Bremen, and mailed to, and deliverable in the United States or its Territories, the foreign postage (other than that of Bremen, and other than that of the United States) is to be added to the postage stated in article 2d or 3d, as the case may be. And the two Post Office Departments are mutually to furnish each other with lists stating the foreign countries, or places in foreign countries, to which the foreign postage, and the amount thereof, must be absolutely prepaid, or must be left unpaid. And until such lists are duly furnished, neither country is to mail to the other any letter from foreign countries beyond it, or for foreign countries beyond the country to which the mail is sent.

ART. 5. Newspapers not weighing more than three ounces each, may

be sent by the United States and Bremen steamers when the whole postage of two cents is prepaid thereon at the mailing office. The postage on pamphlets and magazines, per ounce, or fraction of an ounce, shall be one cent, prepayment of which shall likewise be required in both countries. Said newspapers, pamphlets, and magazines, are to be subject to the laws and regulations of each country, respectively, in regard to their liability to be rated with letter postage when containing written matter, or for any other cause specified in said laws and regulations. They must be sent in narrow bands, open at the sides or ends.

ART. 6. The postage for which the United States and Bremen post offices shall reciprocally account to each other upon letters which shall be exchanged between them, shall be established, letter by letter, according to the scales of progression determined by the preceding 2d and 3d articles, as follows, viz:

The Bremen office shall pay to the United States office for each unpaid letter, weighing half an ounce, or less, originating in the United States and destined for Bremen, as well as for each letter of like weight prepaid in Bremen and destined for the United States, when conveyed under article 2d, by United States steamer ..... 9 cents.
And when by Bremen steamer ..... 5 "
When conveyed under article 3d, by United States steamer .. 14 "
And when by Bremen steamer ..... 5 "

The United States office shall pay to the Bremen office for each unpaid letter, weighing half an ounce, or less, originating in Bremen and destined for the United States, as well as for each letter of like weight prepaid in the United States and destined for Bremen, when conveyed under article 2d, by United States steamer ..... 1 cent.
And when by Bremen steamer ..... 5 cents.
When conveyed under article 3d, by United States steamer .. 1 cent.
And when by Bremen steamer ..... 10 cents.

Respecting the postage for newspapers, pamphlets, and magazines, received in either country, the whole is to be paid to the United States office when the same are sent by United States steamers, and one-half to the United States and the other half to the Bremen office, when sent by Bremen steamers.

It is understood and agreed that, of the portion of the postage for which the United States office is to account to Bremen, as well as of what Bremen may collect, all but one cent a single letter is to go to the benefit of the proprietors of the Bremen line of steamers.

Letter-bills and acknowledgments, as well as forms of account, shall be made to conform to these articles.

ART. 7. The accounts between the two departments shall be closed at the expiration of each quarter of the calendar year, by quarterly statements and accounts prepared by the General Post Office in Washington; and, having been examined, compared, and settled by the post office of Bremen, the balance shall be paid, without delay, by that department which shall be found indebted to the other. If the balance is in favor of Bremen, it shall be paid over by the United States at Bremen; and if in favor of the United States, it shall be paid over by Bremen at *Washington, or to the* General Post Office at London, to the credit of

the United States, as the Postmaster General of the United States shall direct. Neither office is to charge to the other any commissions upon any postage it may collect. The 20 per cent. commission to the postmaster of Bremen, stipulated in article 6th of the arrangement of 1847, is to cease from and after the date when these articles take effect; and Bremen is to receive no other compensation for the services required by the arrangement of 1847 than as provided in article 6th of the present convention.

ART. 8. The steamers of the two lines shall be required to convey all dead and returned letters, and the official communications of the respective post departments of the United States and Bremen, free of charge.

ART. 9. This arrangement, which supersedes the temporary arrangement of 6th July, 1853, is to go into effect on the 15th August, 1853, and it is to be continued in force until annulled by mutual consent, or by either post department after the expiration of three months' previous notice to the other; and it may also cease whenever the Bremen steamers cease running.

In witness whereof, we have hereto set our names and affixed the seals of our respective offices, this 4th day of August, one thousand eight hundred and fifty-three, at the city of Washington.

JAMES CAMPBELL,
Postmaster General.
RUDOLPH SCHLEIDEN,
Minister Resident of the Republic of Bremen.

E.

FOREIGN MAILS.

POST OFFICE DEPARTMENT,
September 1, 1853.

The following is a copy of section 3d of the act of Congress entitled "An act making appropriations for the transportation of the United States mail by ocean steamers, and otherwise, during the fiscal year ending the thirtieth of June, one thousand eight hundred and fifty-four," approved March 3d, 1853, viz:

"SEC. 3. *And be it further enacted*, That the Postmaster General shall cause the facts to be investigated in relation to the contract of A. G. Sloo, for the transportation of the mail in ocean steamers from New York to New Orleans, Charleston, Savannah, Havana, and Chagres, and back, per act of March third, eighteen hundred and forty-seven, for the purpose of ascertaining how far the contract corresponds with the original bids, and shall report to Congress at the next session the facts and circumstances connected with the said contract; and also for what amount the said mail service could be performed if a new contract should be made, and whether the ships furnished under said contract are built according to its terms. The Postmaster General is further directed by this act to ascertain, and report to Congress at its next session, for what amounts the service now performed under the several contracts with the Navy and Post Office Departments for

carrying the mail in ocean steamers can be hereafter performed, upon the supposition that the United States shall take the steamers according to contract, and sell or transfer them."

Except in respect to the New Orleans and Vera Cruz route, which may be discontinued by the Postmaster General, on the allowance of one month's extra pay, the clause in all the contracts giving to the United States the right to take possession of the ships is, in substance, as follows:

"And the said Secretary of the United States Navy, for the time being, shall at all times exercise control over said steamships, and shall at any time have the right to take them for the exclusive use and service of the United States, and to direct such changes in their machinery and internal arrangements as the said Secretary may require; the cost of such changes to be ascertained by the bills actually paid therefor, and the proper compensation of the value of the ships, when so taken as aforesaid, to be ascertained by appraisers to be mutually chosen by the parties aforesaid."

Now, notice is hereby given, that with a view of reporting to Congress, in as complete a manner as possible, the information called for by Congress in section third above quoted from the act of 3d March last, proposals will be received at the Post Office Department, in the city of Washington, until 3 o'clock p. m. of Monday, 31st day of October next, for conveying the mails of the United States for six years from the first day of October, 1854, in the manner and time herein specified.

No. 1. From New York to Cowes, in England, and thence to Bremenhaven, in Germany, and from said Bremenhaven, by Cowes, to New York, once a month.

Proposals for one additional trip a year, each way, will be considered.

No. 2. From Charleston, South Carolina, by Savannah, Georgia, and Key West, Florida, to Havana, in Cuba, and from said Havana, by Key West and Savannah, to Charleston, twice a month.

No. 3. From New York to New Orleans, twice a month, and back, touching at Charleston, (if practicable,) Savannah, and Havana, and from Havana to Chagres (Aspinwall) and back, twice a month.

Proposals to omit Charleston and Savannah will be considered.

In lieu of above, proposals will also be received for service from New York to Aspinwall direct, 2,000 miles, and back, semi-monthly, in not exceeding nine days to the trip each way; from New York by Havana to New Orleans, 2,000 miles, and back, semi-monthly, in not exceeding ten days to the trip each way; and from New Orleans to Aspinwall direct, 1,400 miles, and back, semi-monthly, in not exceeding seven days to the trip each way.

No. 4. From Panama, New Grenada, to San Diego, California, Monterey, San Francisco, and Astoria, in Oregon, twice a month each way—touching, if practicable, at Port Orford, in Oregon, and at such other intermediate port on the coast of Oregon or California as in the opinion of the Postmaster General the public interest may require.

The schedules of Nos. 3 and 4 must be so arranged as to make due connexion at the Isthmus of Panama, thus forming a continuous route *from New York, &c., to* Astoria, and back, twice a month.

No. 5. From New York to Liverpool, in England, and back, twenty-six trips per annum, at such times as the Postmaster General shall direct.

Proposals to touch at Holyhead, in England, will be considered.

No. 6. From New York, by Cowes, in England, to Havre, in France, and back, once a month.

Proposals for changing the terminus of this line from Havre to Antwerp, in Belgium, and for one additional trip a year each way, will be considered.

No. 7. From New Orleans, Louisiana, to Vera Cruz, Mexico, and back, three times a month, supplying Tampico, Mexico, by a side mail, going and returning.

Leave New Orleans on the first, fourteenth, and twenty-fifth days;

Arrive at Vera cruz same month by the fourth, seventeenth, and twenty-eighth days.

Leave Vera Cruz every month on the first, sixth, and twenty-first days;

Arrive at New Orleans same month by the fourth, ninth, and twenty-fourth days.

The proposals in each instance should specify the number of days to be taken for the trip each way, and the mode of conveyance, which must be by steamships in all respects suitable for the service.

If contracts should be entered into, contractors will be required to conform in all respects to the laws and regulations applicable to the ordinary contracts of the Post Office Department.

The bids should be sent, duly guarantied, under seal, to the Postmaster General, and the words "Mail Proposals—Foreign Mails" written on the face of the letter.

JAMES CAMPBELL,
Postmaster General.

NEW YORK, *October* 26, 1853.

SIR: In accordance with advertisement of the Post Office Department, acting under the authority of an act of Congress, approved March 3, 1853, to receive proposals until Monday, 31st October, instant, for conveying the mails of the United States, for six years from the 1st of October, 1854, the undersigned most respectfully submits the following offers, properly guarantied, and in conformity to the requirements of the department, viz:

No. 1.—From New York to Cowes, in England, and thence to Bremenhaven, in Germany; and from said Bremenhaven, by Cowes, to New York, once a month, for one hundred and eighty-four thousand five hundred dollars ($184,500,) or $15,375 a voyage out and back.

No. 3.—From New York to New Orleans, twice a month, and back, touching at Charleston, (if practicable,) Savannah, and Havana; and from Havana to Chagres (Aspinwall) and back, twice a month, for the sum of two hundred thousand dollars.

Or, instead of the above, I will run direct from New York to Aspinwall and back, semi-monthly, in not exceeding an average of nine days to a trip each way, for the sum of eighty-five thousand dollars ($85,000;) or from New York, by Havana, to New Orleans and back, semi-monthly, in not exceeding ten days to the trip each way, for the sum of ninety-five thousand dollars ($95,000;) or from New Orleans to Aspinwall direct, and back, semi-monthly, in not exceeding seven days to the trip each way, for the sum of ninety thousand dollars ($90,000.)

No. 4.—From Panama, New Grenada, to San Diego, California, Monterey, San Francisco, and Astoria in Oregon, twice a month each way; touching, if practicable, at Port Orford, in Oregon, and at such other intermediate port on the coast of Oregon or California as, in the opinion of the Postmaster General, the public interest may require, subject to such schedule as shall be arranged by the Postmaster General, to make due connexion at the Isthmus of Panama—thus forming a continuous route from New York, &c., to Astoria and back, twice a month, for the sum of two hundred and sixty-three thousand dollars ($263,000.)

No. 6.—From New York, by Cowes in England, to Havre in France, and back, once a month, for the sum of one hundred and forty-five thousand dollars ($145,000,) with the privilege to the government of changing the terminus from Havre to Antwerp, in Belgium, by adding ten per cent. to the above.

In all cases where the time is not stated, the undersigned will contract to make better time than is now made on any of the routes, as he will use only first-class steamships, which shall be, in all respects, suitable for the service, and subject to the control of the government in case of war.

E. MILLS,
51 *Courtland Street, New York.*

The POSTMASTER GENERAL.

If the government should award to E. Mills all or any one of the contracts for which he has bid, we will guaranty that he will give good and satisfactory security for the faithful performance in all respects on his part.

HENRY DWIGHT, JR.,
Banker, 110 *Broadway.*
HENRY RANDALL,
Late commander of steamer Northerner.
MILLS & THOMPSON,
Merchants, 51 *Courtland Street.*
DANIEL SEARLE,
Montrose, Pa.

BROOKLYN, N. Y., *September* 22, 1853.

SIR: Observing in the Washington "Union" the Hon. Postmaster General's advertisement for proposals for carrying the United States mails in steamers to different ports, I beg leave to enclose my proposals for carrying the United States mails to Bremen, but, at the same

time, take the liberty to extend my proposals to other ports on the continent of Europe for the honorable Postmaster General's consideration; believing, by so doing, your attention will be drawn to more important routes, to the Post Department and the country at large, which would not alone become the means of increasing the revenue, but, at the same time, make us entirely independent of foreign dependence—which, also, would largely facilitate the corresponding community, particularly the large number of adopted citizens.

We would, undoubtedly, by this line secure a large and valuable carrying trade of merchandise and emigrants, which alone amount to over four millions of dollars per annum for emigrants from the continent of Europe, but which is now nearly all in the hands of foreigners; we would secure the carrying trade from the three most important rivers and outlets of commerce—of the Weser, Rhine, and Elbe, of Germany; and from Russia, Sweden, Norway, and Denmark, bordering on the Baltic and North seas, and through Gluckstadt and Antwerp, from railroads leading to the interior from those two ports—being the only ports on the North sea connected by railroads with the interior of the continent. To illustrate the importance of those lines, I beg leave only here to give a few statistical facts in reference to the carrying trade.

In 1846 to 1852, inclusive, cleared from Hamburg and Bremen 1,962 ships for the United States, with 378,279 passengers; of those ships were only 360 Americans. Estimating the average fares at 40 Prussian thalers per head, the amount received would be 15,131,160 thalers—more than the whole value of our exports of tobacco to Bremen and Hamburg at the same period; and of the above amount, per ratio, we received only 2,819,530 thalers, and the foreigners 12,311,630 dollars.

In 1851 arrived in Bremen, from the United States, 130 ships, containing a tonnage of 81,542 tons—and of these not one single American sailing vessel; and cleared from Bremen 238 ships, with a tonnage of 117,694 tons—of these only 22 American, with a tonnage of 29,534 tons; so that of the 39,301,589 pounds of tobacco exported from the United States to Bremen, valued at Bremen at $2,87S,606, not one single pound was carried in American ships. The freight alone of this tobacco, being about ten per cent. of its value, would amount to $287,860.

If we take the Russians, Prussians, Danish, Swedish, Norwegians, the Netherlands, Belgians, the Hanse Towns, Hanoverians, Oldenburgish, Mecklenburgish, and Lubeckish ships, together, which cleared and entered the United States in 1848 to 1852, inclusive, and compare them with the number of American ships which entered and cleared for those countries, we find that the foreigners had 5,074 ships, containing a tonnage of 1,700,945 tons, against the Americans' only 1,110 ships, with a tonnage of 689,036 tons; or they had 4,002 ships, and a tonnage of 1,116,808 tons, more than we. Estimating the average freight to be $10 per ton, they received not less than $12,168,080 more in freight, in those four years, than we; and by including the amount received for emigrants, not less than the enormous sum of $24,479,710, equal to twenty-five per cent. of the whole value of merchandise imported and exported from and to the United States to those twelve

nations at the same period—a sum sufficient to support ten lines of steamers for ten years.

But to illustrate the commerce of the different nations, I beg leave to lay before the Postmaster General a condensed statement of the commerce of the different nations to which the proposed lines of steamers would have a direct intercourse, and of course mail correspondence takes place in proportion to commerce and emigration.

The following table exhibits the value of exports and imports, in 1851, to the following countries:

COUNTRIES.	IMPORTS.	EXPORTS.
	Prussian thalers.	Prussian thalers.
Hamburg	128,067,904	113,820,013
Bremen	28,880,960	25,585,886
German Zollverein	159,720,000	130,580,000
Netherlands and its dependencies	110,639,940	87,611,664
Russia	85,292,878	85,162,643
Sweden	8,612,000	9,680,000
Norway	4,840,000	8,612,000
Belgium	48,400,000	47,000,000
Denmark	17,360,000	24,200,000
Total	526,442,311	532,252,206

The United States imported and exported to the above countries in the years of 1850 ending June 30, 1851: Exports, $12,686,365; imports, $26,858,680.

I beg leave to draw the attention of the Postmaster General to the fact, that from the above statement it will be seen that Hamburg stands higher in imports and exports, in proportion, than any other country; and so she holds the same position in regard to mailable matter—which tables I have not at present completed, not having, as yet, received all the official reports from some of the European governments. But every letter that goes and comes to Denmark, Sweden, Norway, Russia, Germany North, Austria, and Poland, from transatlantic countries, passes through Hamburg, and not Bremen. The difference between Bremen and Hamburg, in regard to mailable matter, is at least 1,000 per cent.in favor of Hamburg over Bremen.

To Hamburg run regularly fifty-two foreign mail steamers, which made in 1851 725 trips to fifteen commercial ports, and not one regular line to Bremen; if that city were the proper port to run mail steamers, or of a more important commercial city than Hamburg, the European governments would certainly select Bremen instead of Hamburg.

The river Elbe, by Gluckstadt, has, in fifty-five years, only been closed by ice five times for any length of time, and Hamburg is reached from Gluckstadt in less than two hours by railroad, and Bremen from

Bremenhaven, in the summer season, in six, and in winter from fourteen to sixteen hours; and in the summer season the river is often so low that a steamer drawing only twenty inches water cannot pass up and down the river Weser.

The river Elbe above Gluckstadt to Hamburg, at low water, is fourteen feet deep, and at Gluckstadt thirty-six. A glance on the map, with the railroads laid down, will find Bremen in a corner of Germany where no mails pass through except for letters direct to Bremen, or *vice versa;* of course not including the United States mail.

In Hamburg are located several foreign post offices; and if this line should be established, great facilities would be offered to the mails if a mail agent would be located in Hamburg to distribute the mails to the different countries.

There arrived in the United States, between 1846 and 1852, not less than 688,186 German emigrants, who, according to official reports from the German governments, took with them from their native countries not less than a capital amounting to 206,445,800 Prussian thalers; and from reliable estimates is ascertained that, on a yearly average, not less than eight millions of dollars is invested by them in our wild or partly cultivated land. This fact alone should be sufficient to encourage emigration of a still more wealthy class of emigrants by offering them a quick, cheap, and healthy steam voyage.

The object of my proposals for the two steamers to Bremen—first to touch in England and Antwerp—is to facilitate the mails, which would enable the correspondents to receive their letters quicker than by way of England and Bremen—particularly those residing in the western and southwestern parts of Germany and Switzerland—and at the same time facilitate valuable merchandise from two of the most important ports without delay; and the same reason for the line to Rotterdam and Hamburg. These four steamers would furnish us with a twice-monthly direct mail communication with four of the most important commercial ports on the North sea, and, in connexion with the two lines to St. Petersburg and the one to Gothenburg and Christiania, in Norway, make us entirely independent of all other nations.

I beg leave further to remark that the United States would, by these eight steamers, constantly be represented in those seas, ready for any service the United States government might require, and at all times be at the disposal of our foreign diplomatic agents residing in those countries; or, in case of need, render assistance to our mercantile ships which frequent those seas, which is about seventy entering the Baltic every year; and I believe, in twenty-five years, only two American armed ships visited the North and Baltic seas.

This system is now adopted by most every government of Europe, which, of course, the honorable Postmaster General is fully aware of.

My propositions will not alone facilitate the United States mails and first class of passengers, but it is intended that they actually shall be so constructed as being fit for naval war service, and at the same time accommodate the middling classes of less means, and emigrants, so as to enable them to visit Europe at a cheap, healthy, and quick passage, which the present lines of steamers to Europe do not, contrary to the wishes

of a very large portion of the American citizens who are indirectly taxed to sustain lines of steamers for the more wealthy class of our citizens, but they not being able to participate in these facilities.

While travelling in Europe, great facilities and pecuniary aid were offered me by several governments for the purpose of obtaining a direct line of steamers to their countries from the United States, so as to be independent of the British or other nations. Capital sufficient to fulfil the contract has been also tendered me here since my return to the United States.

The line to Gluckstadt has once been favorably reported upon to the House of Representatives by the Hon. T. B. King; and the chairman of the Post Office Committee in the Senate, the Hon. General Rusk, has expressed his favorable opinion upon the lines; and a very large number of petitions from the citizens of the United States were last session presented to the Senate, but it being a short session, and a new administration coming in, no action was taken upon the petitions.

I further beg leave to state, that the above few statements to sustain the importance of the proposed lines will be more fully illustrated by valuable statistical statements over the trade and commerce, mail facilities by railroads, and steam communications, emigration, and maps over those countries, railroads and navigable rivers, as well as over Asia and Africa, to which the proposed lines will come in close connexion, and of the greatest importance to the commerce and trade of the United States.

My constant travelling for three years on the Continent, for the express purpose to obtain all the particular important statistics, makes me believe that I shall be able fully to convince the government and the people of the necessity and sound national policy of establishing those lines.

These lines will not interfere with our sailing-ships, as it is the case with the lines to Liverpool and Havre; they are based upon practical experience and true national policy, and popular wishes of the largest portion of the people, and can stand upon their own merits and investigation.

I hope the Postmaster General will have time to give these proposals a due consideration; the importance must be obvious to all familiar with our commerce in those parts of the world; and a nation like ours should not be depending upon foreign nations for carrying our mails.

Should these propositions be more favorably received by the Postmaster General, if the Bremen and Hamburg lines start from Baltimore, I should have no objection to order my proposals to that effect; but a consideration of five per cent. must be added to the sums now stated.

The southern and middle States would undoubtedly be much pleased with lines from that port; and since the completion of the railroads west, through Pennsylvania and Maryland, the lines may succeed.

Having already extended my remarks further than I at first intended, I beg leave to say that the full statistical statement is at any time at the Postmaster General's service, or the administration, when they should desire the same.

I beg leave to have the honor to remain, sir, yours, very respectfully, and most obedient servant,

C. HANSEN,
South Brooklyn, New York.

Hon. JAMES CAMPBELL,
United States Postmaster General, Washington City.

BROOKLYN, NEW YORK,
September 22, 1853.

SIR: The undersigned respectfully proposes to carry the United States mails from the port of New York to the following ports on the continent of Europe, for a term of ten years:

In a line of steamers, to consist of two steamers of not less than two thousand tons each; one to leave New York once every month, touching at England, Antwerp, and thence to Bremen, and *vice versa*, landing mail and passengers at each port.

Also, one line of steamers, to consist of two steamers of not less than two thousand tons each; one to leave New York once every month, touching at England, Rotterdam, and thence to Gluckstadt, on the river Elbe, near Hamburg, and *vice versa*, landing mail and passengers at each port.

Also, one line of steamers, to consist of two steamers of not less than six hundred tons; one to leave the port of Kiel, on the Baltic, *via* Calmar, Stockholm, in Sweden, thence to St. Petersburg, in Russia once a week, and *vice versa*, landing mail and passengers at each port.

Also, one line of steamers, to consist of two steamers of not less than five hundred tons; one to leave the port of Gluckstadt, via Gottenburg, in Sweden, to Christiania, in Norway, twice a month, and *vice versa*.

In consideration thereof, to receive for the Bremen and Gluckstadt lines one hundred thousand dollars per each steamer per annum the first four years, eighty-seven thousand and five hundred dollars per each steamer per annum the next three years, and seventy-five thousand per each steamer per annum the remaining three years, payable quarterly.

For the line from Kiel via Stockholm and St. Petersburg, sixty thousand dollars per each steamer per annum the first four years, fifty thousand dollars per each steamer per annum the next three years, and forty thousand dollars per each steamer per annum the remaining three years, payable quarterly.

For the line from Gluckstadt to Gothenburg and Christiania, forty thousand dollars per each steamer per annum the first four years, thirty-five thousand dollars per each steamer per annum the three next years, and thirty thousand dollars per each steamer per annum the remaining three years, payable quarterly.

The above lines take in all the important commercial ports in Belgium, Netherlands, Bremen, Hamburg, Kiel, Stockholm, St. Petersburg, Gothenburg, and Christiania in Norway, and with the exception

of crossing the Isthmus of Holstein from the North sea to the Baltic by railroad, which is done in two hours, the United States mails will be carried direct in the United States mail steamers to ten different nations.

The United States mails will reach Copenhagen in fourteen days, Gothenburg in fourteen and a half, Christiania in fifteen, Stockholm in sixteen, St. Petersburg in seventeen, Berlin in thirteen, Vienna in fourteen, Odessa in nineteen, Constantinople in twenty-two, and Trieste in fifteen days from the United States.

The proposed lines will be organized under the name of the Atlantic, North and Baltic Seas Steam Navigation Company.

I beg leave to have the honor to be yours, very respectfully, and most obedient servant,

C. HANSEN,
South Brooklyn, New York.

Hon. JAMES CAMPBELL,
United States Postmaster General, Washington City.

WASHINGTON, D. C., *October* 21, 1853.

SIR: In accordance with your notice of September 1, 1853, I beg leave to offer to carry the United States mails by the ocean steamship Isabel route, No. 2, from Charleston, South Carolina, by Savannah, Georgia, and Key West, to Havana in Cuba, and from said Havana, by Key West and Savannah, to Charleston, twice a month, in the same manner that I now perform the service, with same arrangements and on same terms of my present contract, for six years, and with same security—say from Charleston to Key West and Havana, and from Havana, by Key West, to Charleston, for forty-five thousand dollars per annum, and five thousand dollars additional per year if we receive and deliver the Savannah mails.

With great respect, your obedient servant,

M. C. MORDECAI.

Hon. JAMES CAMPBELL,
Postmaster General.

Mail proposals—Foreign mails.

SIR: Pursuant to your advertisement, under date of September 1, 1853, for proposals to carry certain mails, we hereby propose to carry in steamships of not less than fifteen hundred tons register, to be built according, and in every respect subject, to the conditions of the "contract of A. G. Sloo," the United States mail from Philadelphia to New Orleans, via Havana, and back, semi-monthly, for the sum of two hundred thousand dollars per annum, ($200,000 per annum,) and the mail from Charleston, South Carolina, to Havana in Cuba, and back, via Savannah, Georgia, and Key West, Florida, semi-monthly, for the sum of forty-five thousand dollars per annum, ($45,000 per annum.) We

do further propose, that we will perform both the above contracts in schedule being arranged so that we can do so with two ships, we guarantying the time through from Philadelphia to New Orleans in less than ten days, (we would expect to make it in eight days,) for the round sum of two hundred and twenty-five thousand dollars per annum. ($225,000 per annum.)

The advertisement calls for proposals "from New York:" we take Philadelphia as the starting point, but would be willing to pay a reasonable sum for bringing the New York mail to this port. Hoping the above proposals will prove acceptable, we remain, very respectfully, your obedient servants,

HERON & MARTIN.

Hon. JAMES CAMPBELL.

NEW YORK, *October* 29, 1853.

SIR: The New York and Alabama Steamship Company offer to carry the United States mail semi-monthly from New York, by the way of the Havana, Mobile, and New Orleans, and from New Orleans, by the way of Mobile, the Havana, and New York, according to the prescribed regulations of the department, for the payment of forty thousand dollars per annum.

Very respectfully,

LIVINGSTON, CROCHEREN & CO.,
Agents.

The Honorable the POSTMASTER GENERAL
of the United States.

NEW ORLEANS, *October* 20, 1853.

SIR: We have the honor to enclose herewith a proposition for the transportation of the United States mail between New Orleans and San Francisco, and beg leave to say a few words in explanation.

By a contract already closed with responsible parties, a plank road from Luchil, the head of steamboat navigation on the Coalzacoalcos river, to the Pacific ocean, is to be completed by the 1st of January, 1855, when we will be able to make connexion between New Orleans and the Pacific ocean easily in less than five days. From that point eight days to San Francisco is a large allowance of time—we think it will oftener be done in seven, and between New Orleans and the Pacific in nearer four than five days; so that, between the two points the time will average under twelve days. At the present time the mail between New York and New Orleans is only six and a half days. On the completion of the several railroads now being made, the time will be reduced to about four—many confidently expect it to be three days; so that the New York mails, via New Orleans and the Isthmus of Tehuantepec, will arrive in San Francisco in fifteen days.

In four years from the 1st of December next, a railroad will be com-

pleted from the Gulf to the Pacific, and the time from New Orleans or Mobile to the Pacific reduced to about three days.

Most respectfully, your obedient servants,

A. G. SLOO.
ARNOLD HARRIS.

Hon. J. CAMPBELL,
Postmaster General.

Proposals.

NEW ORLEANS, *October* 20, 1853.

We, the undersigned, propose to transport the United States mail from New Orleans to San Francisco and back, via the Isthmus of Tehuantepec, semi-monthly, for the sum of seven hundred and fifty thousand dollars per annum. They also propose to perform any increased service, due notice being given, for the additional compensation of seventy-five per cent. on the first contract for a period of ten years. The service to commence on the 1st day of January, 1855, provided the contract is made before the 1st of March next: if made subsequent to that time, a corresponding allowance of time, if required, to be given us in commencing the service; or if the contract be made immediately, we will commence on the 1st of October next.

A. G. SLOO.
ARNOLD HARRIS.

Hon. JAMES CAMPBELL,
Postmaster General, Washington, D. C.

NEW YORK, *October* 23, 1853.

DEAR SIR: Enclosed you will find a communication on the subject of mail service between New York, New Orleans, and California. I have adopted this plan, rather than make a direct formal bid, for reasons I doubt not you will fully appreciate. Trusting it will receive your favorable endorsement to Congress,

I am, dear sir, yours, with high regard,
W. C. TEMPLETON.

Hon. JAMES CAMPBELL,
Postmaster General.

NEW YORK, *October* 22, 1853.

SIR: In looking over your advertisement for proposals for mail service between New York, New Orleans, and California, I perceive that propositions for that service by any other route than that now used is not contemplated by law under that advertisement. Under such circumstances I respectfully propose for your consideration, that as soon as

above is, that I wish to secure the department against the possibil failure. I will further add, that a stipulation may be introduced contract, to the effect that, whenever, in the opinion of the Postm General, a shorter and a more convenient route is established, the tract may be annulled on giving ninety days' notice.

Respectfully, your obedient servant,

W. C. TEMPLET(

Hon. JAMES CAMPBELL,

Postmaster General, Washington City, D. C.

NEW YORK AND GALWAY STEAMSHIP CO.,
OFFICE No. 17, TRINITY BUILDING,
New York, October 27, 18

SIR: The New York and Galway Steamship Company, incorp under the general steamship law of the State of New York, desir performing the mail service between New York and Liverpool, o other ports of Great Britain and Ireland as may be directed by gress, or under its authority by the Postmaster General, submi following " proposal," in accordance with a notice that some time issued from your department.

This company will guaranty to perform, in *first class ocean ste* the average voyage between New York and Liverpool in at least *eight hours less time* than *it is* accomplished by the present mai tractors.

This company will guaranty to perform, at this rate, twen round voyages per annum upon receiving six months' notice, an increase them to semi-weekly upon twelve months' notice."

ears, its steamships calling at St. John, Newfoundland, on their trips o and from Great Britain.

The distance between St. John and Galway, or Cork, Ireland, eing about 1,750 miles, the company expects to make its average trips n four or five days, thus forwarding the government's despatches from hree to five days in advance of the regular mails.

The calculations of the company for greater speed and safety in the lelivery of mails are based upon the *superior construction of its ships, ind greater power of engine*, and its ships are *life-boats* and *fire-proof*.

Should this "proposal" be entertained and accepted, the company will furnish the usual bond for the faithful performance and fulfilment of the contract.

By order of the company:

WM. N. BILBO, *President.*

Jos. P. UNDERHILL, *Secretary.*

Hon. JAMES CAMPBELL,
Postmaster General, Washington, D. C.

NEW YORK, *October* 24, 1853.

SIR: Enclosed I beg leave to hand you the proposals of the New York and Havre Steam Navigation Company, for the transportation of the mails between New York, Cowes or Plymouth, and Havre.

In offering to perform this mail service, the company are convinced that they have named the lowest amount for which such service can be performed with steamers suitable, in all respects, for Atlantic navigation, and at the same time afford a fair remuneration for the capital invested in the enterprise, and they feel that their past experience justifies them in this conclusion.

The company have been performing the mail service for the United States during the past three years, at an expense to the government of $12,500 per voyage, (the greater portion of which has been refunded by the postages,) and at a loss to themselves of the interest during that period on the capital invested. They have, however, continued to perform the service with regularity and despatch, and feel that, under the circumstances, they are entitled to some favorable consideration on the part of the government.

The company, in naming the sum of $20,000, far below the amounts paid to other mail steamers, have been influenced by the desire to bring the cost of the service to the government to the lowest point at which remuneration to the contractors can be secured, and they beg here to call your attention to the fact that the mail route between New York and Havre, stopping at Cowes, is the most expensive of the Atlantic routes.

1. The stopping of the steamers at Cowes both going and returning, subjecting them to the payment of light money, pilotage, and steamboat hire to land the mails, makes an additional expense of about..... $1,200

amount named, and should a contract be made with them, pledge selves to carry it out to the entire satisfaction both of the gover and the commercial and travelling community.

The company have deferred availing themselves of the pri granted them by Congress to withdraw their steamers from the s on giving notice of their intention to the Postmaster General, hope that the increasing trade and travel between the United and the continent of Europe might in some measure enable th retrieve their losses, and that the importance of keeping up steam munication between the United States and France in American ers might induce the government to place them on a more eq footing, in view of their remuneration as compared with other li

There is one suggestion in their proposals to which the co would beg leave to call the attention of the department, name change of the terminus for the delivery of the English mails from to Plymouth. The regularity of the steamers is such, that they universally arrive off Cowes in the night, thus delaying the lan the mails until the following morning, and their delivery in l and Havre, sometimes, twenty-four hours. This delay wo avoided if permission were granted to stop at Plymouth, it l safe, more accessible harbor, and lying directly in the course steamers.

With great respect, your obedient servant,

MORTIMER LIVINGSTON, *A*

Hon. JAMES CAMPBELL,
Postmaster General, Washington.

Proposals.

dollars per voyage out and home, on the return of the steamer to York, the service having been faithfully performed.

he New York and Havre Company offer to commence the service ce, or so soon as the contract may be made between them and the rtment, with the two steamers—the Humboldt and the Franklin—owned by them.

he New York and Havre Company further propose, if desired by overnment of the United States, to construct, with all convenient atch, two additional steamers of great size and power—to be limonly by the capacity of the port of Havre to receive them; said mers to be ready for service within two years from the date of the ract; and to transport the mails aforesaid twice in every four weeks New York to Great Britain and the Continent, and back, as specifiabove, for twenty thousand dollars per voyage, out and home, of steamer.

hould the government require this mail service to be performed but e in every four weeks, the New York and Havre Company engage ake thirteen voyages each year. If, however, the government uld require said mail service to be performed with four steamers ce in every four weeks, they will make twenty-six voyages in each r.

The steamers furnished by the company, under the contract, to make trip from New York to Plymouth, or Cowes, in twelve days each y, and the contract—whether for the service with two steamers or r—to continue for the term of six years from October 1, 1854, according to the proposals issued by the department.

Should the company commence the service at once with the steamers w owned by them, the interval until the 1st of October, 1854, to be addition to the six years above specified.

Respectfully submitted:

JAMES FOSTER, *President.*

NEW YORK, *October* 21, 1853.

We, the subscribers, hereby guaranty the faithful performance by e New York and Havre Steam Navigation Company of a contract mail service, according to the foregoing proposals.

MORTIMER LIVINGSTON.
D. LINES.

Attested: GEO. MACKENZIE.

Proposals for changing the terminus of the Havre ine.

NEW YORK, *September* 24, 1853.

The undersigned, in conformity with the advertisement of "Foreign ails, September 1, 1853," proposes to the Post Office Department carry the mails between the United States and Antwerp, touching Cowes, and making thirteen trips in each year, at such times and der such regulations as may be established by the department, for

the sum of twelve thousand five hundred dollars for each complete voyage.

The undersigned will also double the said service, by establishing a line of steamers from the port of Norfolk, in Virginia, if it meets the views of the Post Office Department, at the same rate of compensation per voyage.

The first line can be established immediately, and the second one so soon as the vessels could be constructed; and none of the steamers of either line to be under two thousand tons measurement.

The undersigned is prepared to give security for the full and faithful performance of the service during the term of the contract.

Respectfully submitted by

AMBROSE W. THOMPSON,
of Philadelphia.

The Hon. POSTMASTER GENERAL,
Washington.

2. Synopsis of bids received under the Postmaster General's advertisement of foreign mails, ...

No. of route.	Names of bidders.	Annual sum.	Number of trips.	Route, &c.
1	E. Mills	$184,500	Once a month...	From New York, by Cowes, to Bremenhaven, and back, in first-class steamships, subject to control of government in case of war, and will make better time than is now made on any of the routes.
	C. Hansen	200,000	Once a month...	First four years..... } From New York, via England and Antwerp, to Bremen, and back, in two steamers of not less than two thousand tons each.
		175,000	....do.....	Next three years..... }
		150,000	....do.....	Remaining three years.. }
		200,000	....do.....	First four years..... } From New York, via England, Rotterdam, and thence to Gluckstadt, on the river Elbe, near Hamburg, and back, in two steamers, as above.
		175,000	....do.....	Next three years..... }
		150,000	....do.....	Remaining three years.. }
		120,000	Once a week....	First four years..... } From Kiel, via Calmar, Stockholm, thence to St. Petersburg, and back, in two steamers of not less than six hundred tons.
		100,000	....do.....	Next three years..... }
		80,000	....do.....	Remaining three years.. }
		80,000	Twice a month..	First four years..... } From Gluckstadt, via Gothenburg, in Sweden, to Christiania, in Norway, and back, in two steamers of not less than five hundred tons.
		70,000	....do.....	Next three years..... }
		60,000	....do.....	Remaining three years.. }
				Says the connexion is made in two hours, by railroad, between Gluckstadt, on the North sea, and Kiel, on the Baltic, across the Isthmus of Holstein.
2	M. C. Mordecai	50,000	Twice a month..	From Charleston, by Savannah and Key West, to Havana, and back. Same terms as by present contract, which allows performance by sailing-vessels two months in each year—steamer Isabel the other ten months.
		45,000	....do.....	Omitting Savannah.
	Heron & Martin	45,000	....do.....	From Charleston, by Savannah and Key West, to Havana, and back, in steamships of not less than fifteen hundred tons register.
3	E. Mills	200,000	Twice a month..	From New York, by Charleston, (if practicable,) Savannah, and Havana, to Aspinwall, and back, in first-class steamships, &c.; or, instead of above--
		85,000	....do.....	From New York to Aspinwall, direct, in not exceeding nine days to the trip, on an average, each way.
		95,000	....do.....	From New York, by Havana, to New Orleans, and back, in not exceeding ten days each way.
		90,000	....do.....	From New Orleans to Aspinwall, direct, and back, in not exceeding seven days to the trip each way, all in first-class steamships, as above.

F—Continued.

No. of route.	Names of bidders	Annual sum.	Number of trips.	Route, &c.
3	Heron & Martin.....	$200,000	Twice a month..	From Philadelphia, by Havana, to New Orleans, and back, in steamships of not less than fifteen hundred tons register; or—
		225,000	.....do.....	As above, including, also, service on No. 2, from Charleston, by Savannah and Key West, to Havana, and back, twice a month; the schedule to be so arranged as that the service may all be performed with two ships.
	New York and Alabama Steamship Company—Livingston, Crocheren & Co., agents.	40,000	Twice a month..	From New York, by Havana and Mobile, to New Orleans, and back, according to the prescribed regulations of the Department.
3 & 4	A. G. Sloo and Arnold Harris.....	750,000	Twice a month..	From New Orleans, by Isthmus of Tehuantepec, to San Francisco, and back; and any increased service, on due notice, for the additional compensation of seventy-five per cent. on the first contract for ten years, &c.
	W. C. Templeton, in behalf of himself and the Accessory Transit Company, will offer at—	300,000	Twice a month..	From New York and New Orleans to San Francisco, via Nicaragua, and back; the time of trips each way not to exceed twenty-seven days between New York and San Francisco, and twenty-five days between New Orleans and San Francisco.
4	E. Mills.....	263,000	Twice a month..	From Panama, by San Diego, Monterey, San Francisco, Port Orford, &c., to Astoria, and back, in first-class steamships, subject to control of government in case of war, in due connexion with line on Atlantic side, and will make better time than is now made on any of the routes.
5	New York and Galway Steamship Company—Wm. N. Bilbo, President.	No sum stated.	26 trips a year..	From New York to Liverpool, or such other ports of Great Britain and Ireland as may be directed by Congress, in first-class ocean steamers; the voyage between New York and Liverpool to be performed, on an average, in at least forty-eight hours less time than it is accomplished by the present contractors. Will increase trips to semi-weekly upon twelve months' notice; and will further guaranty to carry all government telegraphic despatches between Washington and London, and *vice versa*, free of all charge. All compensation to be subject to the discretion of Congress.
6	New York and Havre Steam Navigation Company—James Foster, jr., President.	260,000	13 trips a year..	From New York to Havre, via Cowes or Plymouth, and back, with two steamships, (Franklin and Humboldt,) in twelve days each way, and will increase the voyages to twenty-six a year, with two additional steamers, within two years from date of contract, at same rate per round trip.

E. Mills	145,000	Once a month...	From New York, via Cowes, to Havre, and back, with p[illegible] to change terminus from Havre to Antwerp for ten per cent. additional compensation, (making whole pay $159,500,) in first-class steamers, subject to control of government in case of war, and will make better time than is now made on any of the routes.
Ambrose W. Thompson	162,500	13 trips a year..	From New York, via Cowes, to Antwerp, and back; and at same rate for same number of voyages, starting at Norfolk, Virginia, in steamers of not less than two thousand tons measurement.

G.

United States mail service abroad as in operation on the first of October, 1853.

No. of route.	Points.	Distance.	Number of trips.	Contractors.	Annual pay.	Remarks.
		Miles.				
1	New York, by Southampton, England, to Bremenhaven, Germany.	3,760	Once a month.....	Ocean Steam Navigation Company, (C. H. Sand, president.)	$200,000	Under contract with the Postmaster General, agreeably to act of Congress of March 3, 1845.
2	Charleston, South Carolina, by Savannah, Georgia, and Key West, Florida, to Havana, Cuba.	669	Twice a month.....	M. C. Mordecai.....	50,000	Under contract with the Postmaster General, agreeably to acts of Congress of March 3, 1847, and July 10, 1848.
3	New York to Aspinwall, New Grenada, direct.	2,000	Twice a month.....	George Law, M. O. Roberts, and B. R. McIlvain.	290,000	Under contract with the Secretary of the Navy, agreeably to acts of Congress of March 3, 1847, and March 3, 1851.
	New Orleans to Aspinwall, direct..	1,400				
	And New York, by Havana, to New Orleans.	2,000				
4	Astoria, Oregon, by Port Orford, San Francisco, California, Monterey, and San Diego, to Panama, New Grenada.	4,200	Twice a month.....	Pacific Mail Steamship Company, (William H. Aspinwall, president.)	348,250	Under contract with the Secretary of the Navy and the Postmaster General, agreeably to the acts of Congress of March 3, 1847, and March 3, 1851.
5	New York to Liverpool, England..	3,100	Twenty-six a year..	E. K. Collins, Jas. Brown, and Stewart Brown.	858,000	Under contract with the Secretary of the Navy, agreeably to acts of Congress of March 3, 1847, and July 21, 1852.
6	New York, by Cowes, to Havre, France.	3,270	Once a month.....	Ocean Steam Navigation Company, (M. Livingston, agent.)	150,000	Under contract with the Postmaster General, agreeably to act of Congress of March 3, 1847.
7	Aspinwall to Panama, New Grenada.	60	Twice a month.....	Panama Railroad Company, (David Hoadley, president.)	95,335	Under a temporary arrangement, authorized by act of Congress of March 3, 1851, to carry at twenty-two cents a pound.

8	New Orleans, by Tampico, Mexico, to Vera Cruz.	900	Tri-monthly.....	E. H. Carmick.....	69,750		**Under contract with the Postmaster** General, agreeably to act of Congress of August 30, 1852. As yet, semi-monthly service only, omitting Tampico, has been performed; and a deduction of one-third for the omission of the third monthly trip, and one-fifth for the omission of Tampico, has been made in pay.

Statement of the sums paid for the year ending on the 30th of June, 1853, on the New York and Liverpool, New York and Chagres, and the Astoria and Panama mail lines, exhibiting, in separate columns, the whole contract pay, the amount of the ten per cent. deductions, &c., the sums deducted as fines, on the recommendation of the Postmaster General, and the actual amounts paid over.

Whole contract pay.	Amount of 10 per cent. deductions, &c.	Amount deducted as fines.	Amount paid over.
	New York and Liverpool line—		
$858,000 00	$56,980 00	.....	$801 020 00
	New York and Chagres line—		
290,000 00	29,000 00	$5,490 00	255 510 00
	Astoria and Panama line—		
348,250 00	27,754 22	1,570 00	318,925 78

A. O. DAYTON, *Fourth Auditor.*

TREASURY DEPARTMENT,
Fourth Auditor's Office, November 18, 1853.

Statement of dead letters containing money registered and sent out for delivery during the two years ending June 30, 1853.

Year ending—	Number of money letters sent out for delivery.	Aggregate contents of letters sent out.	Number delivered.	Aggregate amount restored in the letters delivered.	Number of letters returned unclaimed.	Contents of unclaimed letters on hand.		Amount of unclaimed money converted and placed with the funds of the department.
						Nominal value.	Worthless.	
June 30, 1852	6,720	$42,672 82	5,760	$38,684 24	960	$3,583 58	$405 00	$8,265 12
June 30, 1853	7,604	48,062 31	6,375	42,120 58	1,229	4,930 14	1,011 59	45 00

Statement of dead letters, containing other articles than money, registered and sent out for delivery to the writers or owners, from July 1, 1851, to June 30, 1853.

Year ending—	Bills of exchange, drafts and letters of credit, bonds and notes of hand, checks, orders, and treasury warrants, certificates of deposite, accounts and receipts.			Deeds, mortgages, conveyances, and land titles.	Articles of agreement and policies of insurance.	Passage certificates and certificates of stock.	Pension papers, land certificates, and patent papers.	Court papers.	Miscellaneous.	Number of letters sent out.	Number of letters delivered.	Number of letters returned unclaimed.	Number of letters outstanding.	Number of letters filed.
	£ s. d.	*Dolls. cts.*	*Francs.*											
June 30, 1852	27,154 19 7	2,003,444 27	120,474 76	879	570	277	206	178	1,559	11,206	7,133	3,975	93	115
June 30, 1853	4,166 10 6	822,516 70	49,986 61	384	171	96	173	114	644	5,138	4,159	946	33	.....

Letters from the executive departments registered and sent to the respective offices from July 1, 1851, to June 30, 1852, 4,066.
Letters from the executive departments registered and sent to the respective offices from July 1, 1852, to June 30, 1853, 1,707.

POST OFFICE DEPARTMENT, CONTRACT OFFICE,
December 1, 1853.

SIR: For a statement of the mail service for the contract year ending 30th of June, 1853, I respectfully refer you to the tables hereto annexed.

Table A exhibits the character of the service, the number of miles of transportation, and the cost thereof, as it stood at the close of the year.

Table B shows the number of mail routes in operation, and the number of mail contractors, route agents, local agents, and mail messengers in the service of the department, on the 30th of June, 1853.

On the 1st of July last, the new service in the New England section, comprising the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut, together with that in the New York section, was put in operation; the first quarter of which expired the 30th of September last. Table C exhibits the service of these sections as they stood at the close of the contract year, 30th of June, 1853, and at the close of the first quarter of the current year.

Tables D and E exhibit the railroad and steamboat service for the current year, showing the particulars of each railroad and steamboat route.

Table F shows the annual transportation and cost of the railroad service in each of the States, as in operation on the 30th day of June in each year from 1848 to 1853, inclusive.

I have the honor to be, very respectfully, your obedient servant,

WM. H. DUNDAS,
Second Assistant Postmaster General.

Hon. JAMES CAMPBELL,
Postmaster General.

A.

Table of mail service for the year ending June 30, 1853, as exhibited by the state of the arrangements at the close of the year.

[The entire service and pay are set down to the State under which it is numbered, though extending into other States, instead of being divided among the States in which each portion of it lies.]

States and Territories.	Length of routes.	ANNUAL TRANSPORTATION AND RATE OF COST.								Total annual transportation by mode not specified.	Total annual transportation by coach.	Total annual transportation by steamboat.	Total annual transportation by railroad.	Total annual transportation.	Total annual rate of cost.
		Mode not specified.		In coach.		In steamboat.		By railroad.							
	Miles.	Miles.	Dollars.	Miles.	Dollars.	Miles.	Dollars.	Miles.	Dollars.	Miles.	Miles.	Miles.	Miles.	Miles.	Dollars.
Maine	4,672	1,981	13,254	2,419	25,530	....	....	272	18,357	414,020	1,010,880	....	223,704	1,648,604	57,141
New Hampshire	1,821	634	4,954	856	6,517	30	100	301	18,418	70,768	335,816	7,800	280,176	694,560	29,989
Vermont	2,448	752	7,578	1,152	10,496	....	....	544	42,884	219,405	440,648	....	393,588	1,053,641	60,958
Massachusetts	3,182	973	14,547	840	16,288	265	4,500	1,104	102,205	396,920	480,792	165,360	1,289,808	2,332,880	137,540
Rhode Island	413	225	2,343	94	1,491	......	....	94	8,612	77,584	53,976	....	86,112	217,672	12,446
Connecticut	1,834	661	8,370	586	10,786	....	....	587	48,586	235,976	276,848	....	580,029	1,092,853	67,742
New York	14,989	6,226	57,177	5,527	83,775	1,218	36,510	2,018	303,209	1,600,478	2,792,204	572,556	3,009,958	7,975,196	480,671
New Jersey	2,746	893	8,289	1,511	16,614	....	....	342	55,367	300,794	593,790	....	361,608	1,256,192	80,270
Pennsylvania	12,223	6,528	45,700	4,921	87,467	....	....	774	108,196	1,065,714	2,307,096	....	907,946	4,280,756	241,363
Delaware	512	203	2,185	309	7,545	....	....	....	(*)	49,608	137,592	....	....	187,200	9,730
Maryland	2,626	1,330	16,359	679	18,074	....	....	617	156,495	338,104	335,608	....	725,504	1,399,216	190,928
Ohio	13,509	8,004	58,283	3,815	119,464	247	8,400	1,443	213,203	1,321,736	1,781,536	115,752	1,225,992	4,445,016	399,350
Virginia	13,455	9,142	57,167	2,333	35,586	1,265	44,793	715	85,007	1,445,704	919,651	424,545	612,490	3,402,390	222,553
North Carolina	8,863	6,422	38,210	1,881	45,065	311	38,618	249	59,475	909,948	755,612	178,880	299,208	2,143,648	181,368
South Carolina	6,113	4,025	38,363	510	13,844	990	20,500	588	61,812	621,504	197,538	246,480	510,328	1,575,850	134,519
Georgia	9,446	5,641	46,851	920	26,764	1,958	15,770	927	134,075	823,680	456,612	240,864	923,634	2,444,790	223,460
Florida	3,938	1,586	13,409	722	13,599	1,630	40,300	....	....	180,200	149,344	183,386	....	512,930	67,308
Michigan	6,363	3,335	16,515	1,344	23,865	1,033	22,360	591	76,341	431,258	609,284	300,768	602,368	1,943,678	139,081
Indiana	9,643	7,631	47,448	1,466	34,237	189	3,220	357	23,211	1,139,332	654,223	77,168	222,768	2,093,491	108,116
Illinois	12,287	7,243	43,930	4,225	113,900	450	5,773	369	31,349	1,046,448	1,806,792	150,800	240,552	3,244,592	194,952
Wisconsin	6,334	4,130	23,313	2,121	32,048	83	1,432	....	....	465,439	636,272	44,928	....	1,146,639	56,793
Iowa	4,292	2,795	20,928	1,497	21,651	....	....	....	....	480,532	490,464	....	....	970,996	42,579
Missouri	12,867	7,941	46,521	3,470	86,245	1,456	†25,463	....	....	1,064,440	702,480	908,544	....	2,675,464	158,229
Minnesota Territory	1,661	1,212	1,250	179	733	270	650	....	....	39,076	22,360	32,760	....	94,196	2,631
Kentucky	9,776	5,635	37,026	1,807	50,091	2,240	†121,315	94	8,840	936,412	851,136	1,630,720	136,864	3,555,132	217,202
Tennessee	8,929	6,380	35,764	1,830	39,573	459	8,000	221	12,800	991,848	637,572	101,712	139,360	1,870,492	90,137
Alabama	8,045	6,291	55,331	1,394	92,318	229	32,036	131	26,487	1,063,206	810,680	166,712	160,160	2,200,848	190,179
Mississippi	6,634	5,176	46,098	916	38,853	484	44,995	59	5,950	787,518	309,336	298,524	43,316	1,431,694	[illegible]
Arkansas	6,910	5,578	35,503	363	15,658	909	37,830	....	....	663,090	103,979	259,998	....	1,029,709	89,081
Louisiana	4,943	2,971	[illegible]	301	15,003	863	†40,803	18	460	[illegible]	[illegible]	307,480	[illegible]	[illegible]	[illegible]

Texas	10,069	7,819	63,943	1,087	48,218	1,170	32,000	.....	.....	926,432	277,942	130,000	.....	1,[illegible]	[illegible]
California	3,667	2,893	87,029	519	35,185	255	21,000	.....	.....	251,412	175,274	159,120	.....	585,806	143,214
Oregon Territory	2,036	1,775	28,522	.....	.....	261	17,000	.....	.....	90,996	.....	17,278	.....	108,274	45,522
New Mexico Territory	980	70	600	910	28,000	.....	.....	.....	.....	7,280	21,800	.....	.....	29,080	28,600
Utah Territory	277	100	150	177	*2,545	.....	.....	.....	.....	2,400	22,568	.....	.....	24,968	2,695
Total	217,743	134,193	1,055,313	52,780	1,206,958	18,355	632,368	12,415	1,601,329	20,890,446	21,330,326	6,685,065	12,986,705	61,892,542	4,495,968
Route and local agents and mail messengers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	233,057
Foreign mails	8,659	60	‖85,314	.....	.....	8,599	469,750	.....	.....	2,880	.....	265,632	.....	968,512	555,064
Total	226,402	134,253	1,140,627	52,780	1,206,958	26,954	1,102,118	12,415	1,601,329	20,893,326	21,330,326	6,950,697	12,986,705	62,161,054	5,284,089

* The Baltimore, Wilmington, and Philadelphia railroad is under a Maryland number.

† This embraces the steamboat service from St. Louis to New Orleans.

‡ This embraces the steamboat service from Louisville to Cincinnati, and from Louisville to New Orleans.

§ This includes the route from New Orleans to Mobile.

‖ This is for service from Panama to Aspinwall, performed by the Panama Railroad Company at a stipulated price per trip, according to weight of mail, and which varies from year to year.

W. H. DUNDAS, *Second Assistant Postmaster General.*

B.

Number of mail routes, mail contractors, route agents, local agents, and mail messengers, at the close of the contract year ending June 30, 1853.

Sections.	Routes.	Contractors.	Route agents.	Local agents.	Mail messengers.
New England	820	742	44	.....	121
New York	776	696	38	2	241
Middle	1,343	949	52	4	217
Southern	1,063	951	38	.....	48
Northwestern	1,425	1,120	16	5	65
Southwestern	1,258	1,119	14	14	47
Ocean routes	7	6	7	1	.....
Total	6,692	5,583	209	26	739

W. H. DUNDAS,
Second Assistant Postmaster General.

C.

Mail service in the New England section.

	Annual transportation.	Annual cost.
For the year ending June 30, 1853.		
	Miles.	*Dollars.*
Railroads	2,853,417	239,062
Steamboats	173,160	4,600
Coaches	2,598,960	71,108
Inferior modes	1,414,673	51,046
Total	7,040,210	365,816
As in operation on the first of October, 1853.		
Railroads	3,749,236	288,524
Steamboats	71,864	3,365
Coaches	2,554,760	87,054
Inferior modes	1,219,512	46,649
Total	7,595,372	425,592
	7,040,210	365,816
Difference	555,162	59,776

W. H. DUNDAS,
Second Assistant Postmaster General.

C.—Continued.

Mail service in the New York section.

	Annual transportation.	Annual cost.
As in operation on the 1st of October, 1853.		
	Miles.	*Dollars.*
ilroads	3,161,270	277,840
amboats	186,992	13,709
aches	2,957,460	110,823
erior modes	1,313,241	55,015
Total	7,618,963	457,387
For the year ending the 30th of June, 1853.		
ilroads	3,009,958	303,209
amboats	572,556	36,510
aches	2,792,204	83,775
erior modes	1,600,478	57,177
	7,975,196	480,671
Total	7,618,963	457,387
Difference	356,233	23,284

NOTE.—The difference in the railroad service and pay grows out of the fact that the department advertised for more service under the new term commencing July 1, 1853; but by its rs of June 14, lessened the pay on the routes from New York to Dunkirk and Albany to ffalo.

The difference in the steamboat service is caused chiefly by the non-letting of the New York l Norwich, the Lewiston and Ogdensburg, the Penn Yan and Bath, the Dunkirk and Cleveld, and the Dunkirk and Detroit steamboat routes.

The service by "mode not specified" is less than last year, owing to the increase of railroad tes during that year, which enabled the department in its advertisement and lettings to pense with many small cross-routes.

W. H. DUNDAS,
Second Assistant Postmaster General.

D.—*Railroad service, as in operation on the 1st of October, 1853.*

States.	Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Remarks.
			Miles.	*Miles.*				
Maine	92	From Railroad Junction, at Danville, to Waterville	55		12	$5,500 00		
Do	95	From Mechanic Falls to Buckfield	12		6	514 28		Embraces side supply—offer of department.
Do	96	From Portland to Portsmouth, N. H	52¼		12	7,837 50		
Do	97	From Portland to Augusta	62		12	7,100 00		Offer of department.
		Branch, Brunswick to Bath	9					
Do	100	From Portland to Island Pond	48		12	4,800 00		$100 per mile.
			101		6	10,100 00		
Do	129	From Leeds Station to Livermore Falls	20		6	857 00		
Do	132	From Portland to Hollis	18		6	771 00		Embraces side supply.
				377¼			$37,479 78	
New Hampshire	201	From Concord to Lowell, Mass	50		18	6,429 00		
Do	202	From Concord to Portsmouth	47		12	2,043 00		Do.
Do	206	From Concord to Wells River, Vt	52		12	7,125 00		Do.
			43		(*)			
Do	207	From Concord to White River Junction	69		12	6,900 00		Offer of department.
		Branch, Franklin to Bristol	13		6	557 00		
Do	208	From Concord to Bradford	26		12	1,300 00		
Do	209	From Contocook Valley to Hillsboro' Bridge	15		12	750 00		
Do	239	From Great Falls to South Milton	12½		6	536 00		Embraces side supply.
Do	241	From Dover to Alton Bay	28		6	1,400 00		Do.
Do	251	From Nashua to East Wilton	16		6	686 00		Do.
				371½			27,726 00	
Vermont	401	From Windsor to Burlington	117		12	11,700 00		Offer of department.

Do	411	From Burlington to Rouse's Point, N. Y.	53½		12	5,350 00		Do.
Do	446	From Rutland to Troy, N. Y.	83		12	7,114 28		Do.
		Branch to Bennington	4		6	171 42		
Do	456	From White River Junction to St. Johnsbury	61		12	4,575 00		$554 additional for mail-messenger service.
Do	460	From Bellows Falls to Windsor	25		12	2,500 00		
Do	462	From Bellows Falls to Burlington	119		12	11,900 00		Offer of department.
Do	469	From Brattleboro' to Bellows Falls	24		12	2,400 00		
				486½			45,710 71	
Massachusetts	601	From Boston to Portsmouth, N. H.	54½		12	7,039 00		
		Branch to Marblehead	4		12	171 00		
Do	602	From Boston to South Berwick Junction	74½		12	7,815 00		
		Branch, Boston to Medford	5½		6			
		Branch, Rollinsford to Great Falls	3		6			
Do	603	From Boston to Lowell	26		18	3,600 00		
		Branch, Winchester to Woburn	3		6			
Do	604	From Boston to Fitchburg	50¾		18	6,525 00		
		Branch, Cambridge to Lexington	8		6	900 00		
		Branch, Junction to Watertown	4					
		Branch, South Acton to Feltonville	9					
Do	605	From Boston to Worcester	45		19	11,250 00		Offer of department accepted.
		Branch, Natick to Saxonville	20		6	860 00		
		Branch, South Framingham to Framingham						
		Branch, South Framingham to Milford						
Do	606	From Boston to Providence, R. I.	43		12	4,300 00		Offer of department.
Do	607	From Boston to Blackstone	35		6	1,750 00		Do.
		Branch, North Wrentham to Medway	4		6	172 00		
Do	608	From Boston to Plymouth	11½		12	986 00		$85 74 per mile.
			26		12	1,300 00		$50 per mile.
								Offer of department.
		Branch, South Abington Depot to Bridgewater	8		6	343 00		
Do	615	From Salem to Lawrence	20		6	713 00		
Do	618	From Lawrence to Manchester	27		12	1,350 00		
Do	622	From Lowell to Lawrence	14		12	700 00		
Do	625	From Groton Junction to Mason Village	23		6	986 00		
Do	626	From Groton Junction to Lowell	17		6	854 00		Embraces side supply.

* 12 trips a week 4 months, and 6 trips a week 8 months.

D.—*Railroad service*—Continued.

States.	Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Remarks.
			Miles.	*Miles.*				
Massachusetts	628	From Boston to Dover	18		6	$500 00		Embraces side supply.
Do	634	From South Braintree Junction to Fall River	42		12	2,100 00		Offer of department.
Do	635	From Braintree depot to Cohassett	12		6	514 29		Offer of department.
Do	641	From Middleboro' to Sandwich	28		6	1,400 00		Do.
Do	652	From Taunton to Mansfield Junction	12		12	1,028 58		Do.
Do	653	From Taunton to New Bedford	21		12	1,800 00		
Do	660	From Fitchburg to Bellows Falls, Vt.	64		12	6,400 00		
Do	661	From Fitchburg to Brattleboro'	67		6	3,350 00		$50 per mile.
			10		18	1,250 00		$125 per mile.
								Offer of department.
Do	666	From Palmer to Amherst	20		6	857 85		Offer of department.
Do	672	From Worcester to Albany, New York	55		19	13,750 00		$250 per mile.
			102		12	12,750 00		$125 per mile.
Do	673	From Worcester to Nashua	45		12	3,375 00		
Do	692	From Springfield to Keene	50		12	5,000 00		$100 per mile.
			24		6	1,200 00		$50 per mile.
								Offer of department.
Do	693	From Springfield to Chicopee Falls	6		12	257 15		
Do	699	From Pittsfield to North Adams	21		12	900 00		
Do	703	From Stirling Junction to Fitchburg	14		12	700 00		
				1,146½			$108,746 87	
Rhode Island	802	From Providence to Stonington, Conn.	50		12	5,000 00		
Do	807	From Providence to Worcester, Mass.	44		12	3,300 00		
				94			8,300 00	
Connecticut	907	From Hartford to Willimantic	31½		12	1,575 00		Offer of department.

Do	908	From Hartford to Bristol	20		12	1,000 00		
Do	925	From Norwich to Worcester, Mass.	59		12	5,057 00		Do.
Do	928	From New London to Palmer, Mass.	14		12	1,200 00		$85 71⅞ per mile.
			52		6	2,600 00		$50 per mile.
Do	933	From Middletown to depot on New Haven, Hartford, and Springfield railroad	10		12	500 00		Offer of department.
Do	937	From New Haven to New London	50		12	4,285 00		
Do	939	From New Haven to Springfield, Mass.	63½		19	15,833 00		
Do	940	From New Haven to Tariffville	45		12	2,250 00		Offer of department—$50 per mile.
			7½		6	321 43		$42 85 per mile.
Do	941	From New Haven to New York, N. Y.	78		19	19,500 00		Offer of department.
Do	942	From Bridgeport to Winchester	62		12	3,100 00		
Do	943	From Bridgeport to State line, Mass., and Branch to Pittsfield	121		12	6,050 00		
Do	959	From South Norwalk to Danbury	23½		12	1,007 00		
				636			64,278 43	
New York	1001	From New York to Dunkirk	460		19	92,000 00		Do.
		Branch Sufferns to Piermont	18		6	771 43		Do.
Do	1002	From New York to Albany	142½		19	32,062 00		Do.
Do	1003	From New York to Chatham Four Corners	130⅓		6	5,592 86		Do.
Do	1008	From New York to Greenport	99		6	4,950 00		
Do	1034	From Newburgh to Chester	20		6	857 14		Do.
Do	1074	From Albany to Rutland, Vt.	89		12	7,628 57		Do.
Do	1081	From Albany to Schenectady	17		25	3,400 00		Do.
Do	1087	From Troy to East Albany	6		13	600 00		Do.
Do	1088	From Troy to Schenectady	20½		12	1,538 00		Do.
Do	1089	From Troy to Saratoga Springs	32		12	3,200 00		Do.
Do	1100	From Saratoga Springs to Castleton, Vt.	54		12	5,400 00		Do.
Do	1126	From Plattsburg to Canada line	23		6	985 00		Do.
Do	1128	From Rouse's Point to Ogdensburg	119		6	5,100 00		Do.
Do	1151	From Sackett's Harbor to Pierrepont Manor	18		6	772 00		
Do	1164	From Schenectady to Utica	78		25	16,500 00		Do.
Do	1191	From Utica to Syracuse	53		25	10,600 00		
Do	1201	From Rome to Cape Vincent	73		12	8,329 00		$100 per mile.
			24		6			$42 86 per mile.
Do	1217	From Syracuse by Geneva to Rochester	105		12	5,250 00		
Do	1218	From Syracuse to Rochester, (straight line)	80¾		25	16,150 00		
Do	1219	From Syracuse to Oswego	35⅓		13	3,043 00		

D.—*Railroad service*—Continued.

States.	Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Remarks.
			Miles.	*Miles.*				
New York—Cont'd.	1258	From Canandaigua to Watkins	46½	.....	12	$2,325 00		
Do	1261	From Canandaigua to Batavia	50	.....	12	2,500 00		
Do	1264	From Rochester to Niagara Falls	76	.....	12	7,600 00		
Do	1269	From Rochester to Buffalo	69	.....	25	13,600 00		
Do	1305	From Buffalo to Niagara Falls	22	.....	6	943 00		
Do	1306	From Buffalo to Hornellsville	91	.....	6	3,900 00		
Do	1311	From Buffalo to State line	69	.....	12	13,800 00		
Do	1357	From Corning to Batavia	90	.....	6	3,857 00		
Do	1359	From Elmira to Watkins	22	.....	12	1,100 00		
Do	1365	From Owego to Ithaca	33	.....	12	1,415 00		
				2,266			$275,769 00	
New Jersey	9001	From New York, N. Y., to New Brunswick, N. J.	36	.....	13	13,838 00		
Do	9003	From New York, N. Y., to Dover, N. J.	45	.....	12	3,857 00		
Do	9020	From Elizabethport to Easton, Pa	64	.....	12	5,486 00		
Do	9054	From New Brunswick to Philadelphia, Pa	54	.....	13	20,250 00		
Do	9069	From Trenton to Milford	37	.....	6	1,586 00		
Do	9079	From Burlington to Mount Holly	7	.....	12	300 00		
Do	9085	From Philadelphia, Pa., to New York, N. Y.	73	.....	7	7,300 00		
				316			52,617 00	
Pennsylvania	9200	From Philadelphia to Columbia	70	.....	14	4,675 00	.....	$200 per mile.
			13½	.....	7			$50 per mile.
Do	9210	From Philadelphia to Pottsville	97	.....	12	14,218 00		
Do	9223	From Westchester to Philadelphia	33	.....	12	750 00		
Do	9297	From Port Clinton to Tamaqua	20	.....	6	858 00		
Do	9302	From Lancaster to Harrisburg	37½	.....	14	7,525 00		
Do	9310	From Columbia to Middletown	19	.....	6	815 00		

Do	9352	From Chambersburg to Hagerstown, Md	10		6	943 00		
Do	9367	From Pottsville to Tuscarora	11½		6	300 00		
Do	9441	From Blossburg to Corning	40		6	1,715 00		
Do	9600	From Lodersville to Scranton	50		6	2,143 00		
Do	9601	From Northville to Erie	20		14	4,000 00		
Do	9603	From Glen Rock to Hanover	13		6	557 00		
				763			103,099 00	
Maryland	9850	From Baltimore to Philadelphia, Pa	102		13	37,500 00		Includes $6,900 for ferry service at night, and accommodations for agents in night trains.
Do	9851	From Baltimore to Washington, D. C	40		14	12,000 00		
Do	9852	From Baltimore to Wheeling, Va	179		14	91,387 50		$300 per mile.
			201		7			$187 50 per mile.
		Branch, Frederick to junction	3		7	300 00		$100 per mile.
Do	9856	From Baltimore to Columbia	59		14	12,450 00		$200 per mile.
			13		7			$50 per mile.
Do	9897	From Annapolis to Annapolis Junction	20		13	2,858 00		
				617			156,495 50	
Ohio	10056	From Erie, Pa., to Cleveland, Ohio	96		13	25,920 00		
Do	10154	From Springfield to Dayton	24		6	2,400 00		
Do	10156	From Columbus to Xenia	55		13	14,850 00		
Do	10160	From Columbus to Cleveland	138		13	32,194 29		
Do	10185	From Mansfield to Sandusky	61		6	5,228 58		
Do	10186	From Mansfield to Newark	63		6	5,400 00		
Do	10234	From Springfield to Sandusky	132		6	13,200 00		$100 per mile.
		Branch, Carey to Finley	16					
		Branch, Tiffen to Bellevue	38		6	3,150 00		$50 per mile.
		Branch, Sandusky to Huron	9					
Do	10264	From Cincinnati to Springfield	64		13	17,280 00		$270 per mile.
			19		6	1,900 00		$100 per mile.
Do	10266	From Cincinnati to Dayton	60		6	6,000 00		
Do	10284	From Hamilton to Eaton	27		6	1,157 15		
Do	10329	From Cleveland to Wellsville	100		6	12,517 86		$100 per mile.
			87¾		6			$42 86 per mile.
Do	10330	From Pittsburg, Pa., to Crestline, Ohio	82		6	23,000 00		$150 per mile.
			107		6			$100 per mile.

D.—*Railroad service*—Continued.

States.	Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Remarks.
			Miles.	*Miles.*				
Ohio—Continued...	10331	From Zanesville to Columbus	60	.....	7	$12,000 00		
Do.....	10334	From Hillsboro' to Loveland	37	.....	6	1,850 00		
Do.....	10342	From Galion to Union City	118	.....	6	5,143 00		
Do.....	10343	From Dayton to Indianapolis, Ind	130	.....	6	13,000 00		
Do.....	10344	From Toledo to Grafton	87	.....	13	17,400 00		
Do.....	10395	From Dayton to Troy	20	.....	6	857 00		
				1,630¾			$214,447 88	
Virginia.....	2401	From Aquia Creek to Richmond	75⅝	.....	14	22,700 00		
Do.....	2429	From Richmond to Junction	27½	.....	7	1,000 00	.....	$36 36 per mile.
		From Junction to Mechum's river	83½	.....	7	8,350 00	.....	$100 per mile.
Do.....	2433	From Richmond to Petersburg	24½	.....	14	7,350 00		
Do.....	2443	From Petersburg to Rice's Depot	62½	.....	6	2,678 00		
Do.....	2445	From Petersburg to City Point	12	.....	6	450 00		
Do.....	2448	From Petersburg to Weldon, N. C	64	.....	14	19,200 00		
Do.....	2452	From Hicksford to Gaston, N. C	20	.....	7	1,000 00		
Do.....	2470	From Portsmouth to Weldon, N. C	80	.....	7	8,000 00		
Do.....	2518	From Manassas Station to Massie's Mills	33	.....	6	1,414 00		
Do.....	2533	From Winchester to Harper's Ferry	32	.....	6	2,743 00		
Do.....	2622a	From Lynchburg to Big Lick	55	.....	6	2,357 00		
Do.....	2724	From Alexandria to Culpeper C. H. and Warrenton	71	.....	6	3,550 00		
Do.....	2728	From Richmond to Keyesville	75	.....	6	3,215 00		
				715⅝			$4,007 00	
North Carolina.....	2801	From Raleigh to Weldon	80	.....	7	9,100 00		
Do.....	2825	From Weldon to Wilmington	103	.....	14	48,000 00		

South Carolina	3101	From Columbia to Branchville	69		7	6,900 00		
Do	3102	From Columbia to Williamston, with branches to Abbeville C. H. and Anderson	145½		6	7,275 00		
Do	3103	From Columbia to Charlotte	112		6	8,400 00		
Do	3108	From Camden to Wateree	39		7	1,950 00		
Do	3131	From Charleston to Augusta, Ga	139		14	33,012 50		
Do	3153	From Manchester to Florence Station	96		7	4,800 00		
		From Wilmington to Whitesville						
Do	3227	From Newberry C. H. to Laurens C. H	31		6	1,328 57		
				631½			63,666 07	
Georgia	3250	From Savannah to Macon	192		14	33,600 00		
Do	3264	From Milledgeville to Gordon	17		7	999 00		
Do	3299	From Macon to Atlanta	102		7	12,750 00		
Do	3312	From Augusta to Atlanta	174½		14	41,700 00		
		Branch, Camak to Warrenton	3¾		7			
Do	3320	From Union Point to Athens	40		6	2,000 00		
Do	3365	From Atlanta to West Point	92		7	18,400 00		
Do	3366	From Atlanta to Chattanooga	140		6	14,000 00		
Do	3374	From Kingston to Rome	18⅔		6	930 00		
Do	3411	From Fort Valley to Oglethorpe	22		7	1,100 00		
Do	3415a	From Macon to Columbus	99		7	9,900 00		
Do	3424	From Millin to Waynesboro'	21		7	1,050 00		
Do	3442	From Milledgeville to Eatonton	23		7	1,150 00		
				944			137,579 00	
Michigan	3703	From Detroit to Chicago, Ill	282½		6	28,250 00		$100 per mile.
					6	9,416 00		$50 per mile.
Do	3705	From Detroit to Pontiac	25½		6	1,275 00		
Do	3716	From Monroe to Chicago, Ill	246		6	24,600 00		$100 per mile.
					6*	9,300 00		$50 per mile.
		Branch, Toledo to Adrian	33		6	3,300 00		$100 per mile.
		Branch, Constantine to White Pigeon	4		6	200 00		$50 per mile.
				591			76,341 00	
Indiana	3903	From Indianapolis to Madison	87		6	7,457 00		
Do	3905	From Indianapolis to Terre Haute	73		6	6,257 00		
Do	3908	From Indianapolis to Lafayette	63		6	2,700 00		
Do	3975	From Edinburgh to Rushville	37		6	1,671 00		
Do	4097	From Jefferson to Edinburgh	77		6	3,300 00		

*6 additional trips for 8 months.

D.—*Railroad service*—Continued.

States.	Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Remarks.
			Miles.	*Miles.*				
Indiana—Cont'd ...	4130	From Knightstown to Shelbyville.....	26	.....	6	$1,040 00		
Do.....	4134	From Lawrenceburg to Greensburg	42	.....	6	1,840 00		
Do.....	4119	From New Albany to Bedford.....	71	.....	6	3,042 86		
				476			$27,307 86	
Illinois.....	4153*b*	From St. Louis, Missouri, to Springfield, Illinois.....	104	.....	6	8,500 00		
Do.....	4154	From Springfield to Naples.....	55	.....	6	2,914 00		
Do.....	4310*a*	From Chicago to Sheffield.....	135	.....	7	13,500 00		
Do.....	4312*a*	From Chicago to Freeport.....	120	.....	6	12,000 00		
Do.....	4312*b*	From Junction to St. Charles.....	6½	.....	6	278 58		
Do.....	4312*c*	From Junction to Aurora.....	13	.....	6	557 15		
				433½			37,749 73	
Kentucky.....	5106	From Louisville to Lexington.....	94	.....	14	8,840 00		
				94			8,840 00	
Tennessee.....	5429*a*	From Memphis to La Grange.....	50	.....	7	2,500 00		
Do.....	5473	From London to Dalton, Ga.....	82	.....	6	6,150 00		
Do.....	5475	From Nashville to Jonesville.....	123½	.....	6	12,350 00	.....	$100 per mile.
		Branch to Shelbyville.....	8	.....	6	400 00	.....	$50 per mile.
				263½			21,400 00	
Alabama.....	5501	From Montgomery to West Point	88½	.....	14	24,337 50		
Do.....	5557	From Decatur to Tuscumbia.....	43	.....	7	2,150 00		
Do.....	5590	From Selma to Montevalo.....	56	.....	6	2,400 00		
Do.....	5700*b*	From Mobile to Citronelle	33	.....	3	234 00		
				220½			29,121 50	
Mississippi	5704	From Jackson to Vicksburg.	46	.....	7	4,600 00		

Do.....	[illegible]	From Jackson to Brandon.....	[illegible]	.....	[illegible]	[illegible]	
				59½			5,950 00
Louisiana	6105	From New Orleans to Lafayette City.	2	.....	6	150 00	
Do.....	6183	From New Orleans to Terre au Bœuf.....	16	.....	6	300 00	
				18			450 00
				13,412⅔			1,645,582 33

W. H. DUNDAS, *Second Assistant Postmaster General.*

E.

Steamboat service, as in operation on the 1st of October, 1853.

States.	Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Remarks.
			Miles.	*Miles.*				
New Hampshire	267	From Weir's Bridge to Centre Harbor and Wolfboro'	30		6	$133 00		
Do	274	From Alton Bay to Centre Harbor	30		6	133 00		
				60			$266 00	Offer of department.
Massachusetts	649	From New Bedford to Nantucket	65		6	3,000 00		From November 25th to March 25th, from Wood's Hole to Nantucket only by steamboat and packet, alternately. No contract.
				65			3,000 00	
New York	1004	From New York to Stonington, Conn	125		6	7,000 00		
Do	1110	From Whitehall to Plattsburgh	95		12	4,800 00		During navigation.
Do	1120	From Port Kent to Burlington, Vt	8		6	110 00		Part of a coach contract.
Do	1365	From Ithaca to Cayuga	40		6	1,799 00		Part of a railroad contract.
				268			13,709 00	
Ohio	10270	From Cincinnati to Maysville, Ky	64		6	4,000 00		
Do	10335	From Sandusky to Toledo	60		6	*2,400 00		During navigation—say 8 months of the year—at $300 per month.
Do	10340	From Portsmouth to Cincinnati	123		3	2,000 00		
				247			8,400 00	
Virginia	2401 (part.)	From Washington, D. C., to Aquia Creek, Va	54½		14	16,300 00		

Do	2440	From Richmond to Norfolk	148		6	[illegible]		
Do	2464	From Baltimore, Md., to Yorktown, Va	200		1	880 00		$15 the round trip, with $100 additional for mail messenger service.
Do	2467	From Norfolk to Hampton	18		6	1,600 00		
Do	2468	From Norfolk to Baltimore, Md	200		6 3	9,000 00 5,250 00		$2,250 additional per month for 3 additional weekly trips, from January 1 to March 10, 1852.
Do	2469	From Norfolk to Eastville	57		2	1,700 00		
Do	2576	From Wheeling to Parkersburg	96		3	2,500 00		
Do	2726	From Norfolk to New York, N. Y	300		1	520 00		$10 the round trip.
Do	2730	From Norfolk to Mathews C. H	60		2	600 00		$50 per month.
Do	2731	From Norfolk to Walkerton	135		†2 ‡1	400 00 100 00		From April 1 to November 30, $600 per annum, and from December 1 to March 31, $300 per annum.
				1,268½			42,475 00	
North Carolina	2825	From Wilmington to Charleston, S. C	178		7	36,525 00		
Do	2830	From Greenville to Washington	25		6	1,200 00		
Do	2868	From Franklin Depot to Plymouth	108		3	893 00		
				311			38,618 00	
South Carolina	3133	From Charleston to Savannah, Ga	110		7	14,000 00		
Do	3222	From Charleston, by Beaufort, to Savannah, Ga	160		1	1,300 00		
Do	3226	From Charleston to New York, N. Y	720		2	500 00		
				990			15,800 00	
Georgia	3251	From Savannah to Pilatka, Fla	358		2	7,450 00		
Do	3413	From Savannah to New York	800		1	4,160 00		
Do	3425	From Philadelphia, Pa., to Savannah, Ga	800		1	4,160 00		
				1,958			15,770 00	
Florida	3503	From New Orleans, La., to Key West, Fla	1,000		(§)	26,000 00		
Do	3509	From Pilatka to Mellenville	130		1	1,500 00		
Do	3540	From Bainbridge, Ga., to Apalachicola, Fla	200		(‖)	11,500 00		
Do	3557	From Charleston, S. C., to Pilatka, Fla	300		2	2,600 00		
				1,630			41,600 00	

* Estimated. † For 8 months. ‡ For 4 months. § 2 trips per month. ‖ 3 trips per week for 8 months; 2 trips per week for 4 months.

E.—*Steamboat service*—Continued.

States.	Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Remarks.
			Miles.	*Miles.*				
Michigan	3701	From Detroit to Buffalo, N. Y.	267		6	$10,000 00		During navigation.
Do	3707	From Detroit to Sault de St. Marie	351		1	200 00		Do.
Do	3789	From Grand Rapids to Grand Haven	41		3	160 00		Do.
Do	3836	From Monroe to Buffalo, N. Y.	260		6	10,000 00		Do.
Do	3837	From Sault de St. Marie to Ontonagon	300		3	*1,030 00		During navigation; service authorized at $15 a trip, not to exceed three trips per week. No contract.
				1,219			$21,390 00	
Indiana	4131	From Madison to Cincinnati, Ohio	91		6	2,500 00		
				91			2,500 00	
Illinois	4307	From Chicago to Milwaukie, Wis	100		6	5,173 00		During navigation.
				100			5,173 00	
Wisconsin	4518	From Milwaukie to Sheboygan	50		6	800 00		Do.
				50			805 00	
Missouri	4829	From St. Louis to New Orleans, La	1,250		6	11,200 00		Service engaged by the trip.
Do	4832	From St. Louis to Keokuk, Iowa	206		6	14,263 00		
				1,456			25,463 00	
Kentucky	5101	From Louisville to Cincinnati, Ohio	142		7	10,500 00		
Do	5102	From Louisville to New Orleans, La	1,448		7	40,815 00		
Do	5103	From Louisville to St. Louis, Mo.	650		7	70,000 00		
				2,240			121,315 00	
Tennessee	5443	From Nashville to Memphis	489		2	8,000 00		
				489			8,000 00	
Alabama	5502	From Stockton to Mobile	34		7	14,000 00		Under coach contract.
Do	5540	From Chattanooga to Decatur	195		7	16,863 00		
				229			30,863 00	

Mississippi	5711	From Vicksburg to New Orleans, La	374		3	8,260 00		Service engaged by the trip.
Do	5714	From Vicksburg to Yazoo City	110		3	1,495 00		
				480			9,755 00	
Arkansas	5901	From Little Rock to Napoleon, and from Napoleon to Batesville	538		3	*34,500 00		Contractor failed; special service employed.
Do	6036	From Napoleon to Memphis, Tenn	203		2	*12,000 00		Do.
				741			46,500 00	
Louisiana	6101	From New Orleans to Mobile, Alabama	164		7	35,300 00		
Do	6103	From New Orleans to Shrevesport	544		3	2,075 00		Service engaged by the trip.
Do	6104	From New Orleans to Covington	60		3	800 00		Do.
				768			38,175 00	
Texas	6201 (sub. 1.)	From Indianola to New Orleans, La	540		1	12,000 00		
Do	6201 (sub. 2.)	From Brasos Santiago to New Orleans, La	550		1	15,000 00		
Do	6202	From Galveston to Houston	80		2	5,000 00		
				1,170			32,000 00	
California	5061	From San Francisco to Sacramento City	114		7	11,000 00		
Do	5062	From San Francisco to Stockton	105		6	10,000 00		
				219			21,000 00	
Oregon Territory	5025	From Astoria to Oregon City	136		(†)	10,000 00		
Do	5028	From Oregon City to Marysville	140		1	8,000 00		
				276			18,000 00	
				16,329½			560,572 00	

* Estimated.

† Two trips per month.

W. H. DUNDAS, *Second Assistant Postmaster General.*

F.—*Railroad service and cost for the years* 1848, 1849, 1850, 1851, 1852, *and* 1853.

States.	1848.		1849.		1850.		1851.		1852.		1853.	
	Transportation.	Cost.	Transportation.	Cost.	Transportation.	Cost.	Transportation.	Cost.	Transportation.	Cost.	Transportation.	Cost.
	Miles.	*Dollars.*	*Miles.*	*Dollars.*	*Miles.*	*Dollars.*	*Miles.*	*Dollars.*	*Miles.*	*Dollars.*	*Miles.*	*Dollars.*
Maine	70,824	6,733	91,416	6,823	117,000	12,254	177,528	15,397	177,528	15,397	223,704	18,357
New Hampshire	144,768	10,504	144,768	10,504	187,200	17,139	212,160	18,240	220,272	16,498	280,176	18,418
Vermont	.....	.....	.....	.....	188,604	28,875	235,668	32,262	270,660	31,508	393,588	42,884
Massachusetts	906,284	70,706	942,486	72,654	1,143,626	98,319	1,218,312	100,603	1,276,912	101,320	1,289,808	102,205
Rhode Island	30,264	4,850	30,264	4,850	86,112	8,612	86,112	8,612	86,112	8,612	86,112	8,612
Connecticut	230,444	22,192	230,444	22,192	592,678	46,014	552,944	46,471	565,365	47,236	580,029	48,586
New York	735,076	62,958	808,812	66,872	1,413,042	123,920	2,177,604	176,175	2,837,276	262,830	3,009,958	303,209
New Jersey	208,728	37,551	264,992	37,422	273,728	37,622	264,368	36,972	307,320	49,122	361,608	55,367
Pennsylvania	356,720	43,357	394,342	39,035	472,446	48,050	561,990	57,915	866,606	71,165	907,946	108,196
Maryland	391,768	95,745	396,656	94,612	396,656	99,612	601,224	113,450	597,064	112,700	725,504	156,495
Ohio	96,928	9,115	183,560	19,730	183,560	19,730	516,984	76,799	671,632	100,674	1,225,992	213,203
Virginia	118,248	25,043	211,393	51,107	211,393	51,107	233,961	52,507	366,946	73,393	612,490	85,007
North Carolina	179,816	46,700	179,816	46,700	179,816	46,700	179,816	46,700	263,016	53,571	299,208	59,475
South Carolina	150,696	39,812	179,816	41,862	179,816	41,862	230,828	45,366	411,528	52,010	510,328	61,812
Georgia	404,196	74,037	429,156	76,017	470,152	80,376	470,152	80,376	820,071	116,989	923,634	134,075
Florida	.....	.....	.....	.....	7,176	620	7,176	620	.....	.....	.....	.....
Michigan	149,760	13,374	214,968	23,188	305,864	33,593	304,720	34,482	601,120	83,958	602,368	76,341
Indiana	53,664	3,729	54,288	3,729	64,896	4,029	99,216	10,650	215,904	22,511	222,768	23,211
Illinois	.....	.....	.....	.....	.....	.....	65,520	6,344	106,704	9,164	240,552	31,349
Kentucky	.....	.....	.....	.....	.....	.....	40,040	1,535	136,864	8,840	136,864	8,840
Tennessee	.....	.....	.....	.....	.....	.....	.....	.....	83,616	5,742	139,360	12,800
Alabama	70,512	13,843	70,512	13,843	70,512	13,843	83,616	17,443	155,688	26,180	160,160	26,487
Mississippi	28,704	3,943	33,488	4,600	43,316	5,950	43,316	5,950	43,316	5,950	43,316	5,950
Louisiana	.....	.....	.....	.....	.....	.....	1,248	150	1,248	150	11,232	450
	4,327,400	584,192	4,861,177	635,740	6,524,593	818,227	8,364,503	985,019	11,082,768	1,275,520	12,986,705	1,601,320

W. H. DUNDAS, *Second Assistant Postmaster General.*

OFFICE OF THE AUDITOR OF THE TREASURY
FOR THE POST OFFICE DEPARTMENT,
November 23, 1853.

SIR: I have the honor to submit the following report of the operations of this office for the fiscal year, including the statistical information (as fully as is practicable) called for by the resolution of the Senate of the 25th March, 1852:

The balance to the credit of the Post Office Department on the books of this office on the 1st of July, 1852, was		$843,394 32
The receipts of the fiscal year from all sources, including the sum of $2,255,000 drawn from the treasury in aid of the revenue, under the acts of 3d March, 1847, 3d March, 1851, and 3d March, 1853, were		7,495,724 70
Total apparent revenue for the year		8,339,119 02
The expenditures for the year, including bad debts and suspense accounts, were		7,983,089 37
Leaving an apparent balance to the credit of the revenue on 1st July, 1853, of		356,029 65
From this balance should be deducted the unavailable balances due from late postmasters, as estimated in my predecessor's report for 1851, and brought forward in his report for 1852	$245,912 80	
Less this sum, since accounted for	112,670 17	
	133,242 63	
Deduct also this amount, paid to the British government since the commencement of the fiscal year, on account of postages accrued within previous year, (to wit: from 2d quarter, 1851, to 2d quarter of 1852 inclusive,) and properly chargeable to the expenditures of the fiscal year ended 30th June, 1853	118,061 56	
		251,303 19
Leaving as ultimately available		104,726 46
Excess of expenditures of all kinds over the revenues of the year, exclusive of the balance on hand July 1st, 1852, and the amount drawn from the treasury		$2,742,364 67

The postal accounts with Great Britain exhibit balances due that government, as follows:

3d quarter, 1852	$21,810 96
4th quarter, 1852	34,922 02
1st quarter, 1853	58,496 97
2d quarter, 1853	35,131 80
	150,361 75

Contractors' accounts.

The average number of accounts of contractors and others engaged in carrying the mails, settled in each quarter, was—

On regular routes	4,820
On special routes	2,119
Payments on recognitions of service	409
	7,348

The whole amount passed to the credit of contractors and others for transportation was	$5,062,295 50
Amounts charged to contractors:	
To damages, over-credits, &c	$44,877 53
To fines	13,348 03
To deductions	24,572 28
Amount actually paid for transportation during the year	$4,906,308 05
Of which there was paid for regular service in the United States	4,375,272 08
Route agents	170,367 70
Supply of special offices	129,582 52
Amount paid for transportation in previous years	76,634 25
River mails, &c	72,441 00

Foreign mail transportation.

New York to Bremen	200,000 00
New York to Havre	150,000 00
Charleston to Havana	50,000 00
Across the Isthmus of Panama, and agents	123,285 97
New Orleans to Vera Cruz	7,750 00

Postmasters' accounts.

The number of quarterly accounts of postmasters which have been examined and adjusted during the year is as follows:

For 3d quarter of 1852	21,654
For 4th quarter of 1852	21,775

For 1st quarter of 1853	22,542
For 2d quarter of 1853	22,421
Total	88,392

The amount allowed, in the adjustment of these accounts, as extra commissions, under the 6th section of the act to reduce and modify the rates of postage, approved 3d March, 1851, was $523,301 95

The proviso of the act of Congress granting these commissions required that the amount allowed in each case during any fiscal year should not exceed by more than 20 per cent. the amount of commissions in such cases for the year ending 30th June, 1851; thus making it necessary to adjust them separately from the other accounts of postmasters, which are settled quarterly, and causing much difficulty and embarrassment in the settlement of these latter accounts. The allowance of these commissions ceased on the 1st of April last; but in any allowance hereafter of additional or extra commissions by Congress, it is hoped that no such restrictions or conditions will be imposed as prevent their adjustment in the quarterly accounts.

Surplus commissions have accrued at only four offices, viz.:

New York	$64,947 44
Boston	4,031 54
Chicago, Illinois	2,387 92
Brooklyn, New York	147 68
Total surplus commissions	71,514 58

At these offices, respectively, the regular commissions exceeded the amount of compensation of the postmaster and the necessary expenses of the office, without the additional or extra commissions.

The aggregate balances due from postmasters in the adjustment of their quarterly accounts for the year ending June 30, 1853, were as follows:

July to September 30, 1852	$744,242 93
October to December 31, 1852	714,965 37
January to March 31, 1853	841,302 55
April to June 30, 1853	755,905 27
	3,056,416 12

Collection of post office revenue.

The number of postmasters whose quarterly balances are collected by contractors, on orders sent from this office, were, at the close of the fiscal year 17,193

During the fiscal year this office had in charge the accounts of present postmasters, numbering 22,320

Of late postmasters who became late during the fiscal year 1845–6 .....

Of late postmasters who became late during the fiscal year 1846–7	11	
Of late postmasters who became late during the fiscal year 1847–8	21	
Of late postmasters who became late during the fiscal year 1848–9	85	
Of late postmasters who became late during the fiscal year 1849–50	188	
Of late postmasters who became late during the fiscal year 1850–1	1,441	
Of late postmasters who became late during the fiscal year 1851–2	2,556	
Of late postmasters who became late during the fiscal year ending June 30, 1853	9,094	
		13,400
		35,720

The number of changes of postmasters during the fiscal year, reported to this office by the First Assistant Postmaster General, was	6,669	
The number of new bonds accepted by the Postmaster General from postmasters was	2,425	
		9,094

Of the 22,320 post offices in operation, the following is believed to be a correct classification, viz:

Number of depositing offices	962
Number of draft offices	1,026
Number of special offices about	3,139
Number of collection offices	17,193

The whole amount collected by contractors, on orders sent from this office, was	$760,951 50
Amount collected by special drafts, &c	3,054 44
	764,005 94

The balance on account of late postmasters who went out of office or whose accounts terminated between July 1, 1845, and June 30, 1852, unsettled on July 1, 1852, increased by estimates since last report, amounted to	$54,067 62
Amount of these accounts placed in suit in fiscal year and still uncollected	805 46
Amount to be collected from July 1, 1853	53,262 16

Of this sum there have been collected during the year:

Without suit	$37,203 71	
With suit	1,910 65	
Credited on vouchers	1,049 62	

Closed by suspense	$0 23	
Charged to bad debts	41 50	
		$40,205 71
Leaving uncollected on June 30, 1853, on accounts prior to June 30, 1852, and not in suit		13,056 45
Add amount in suit and uncollected on June 30, 1853, of accounts placed in suit prior to June 30, 1852, and omitted in last report		14,608 46
Aggregate of indebtedness of late postmasters on accounts prior to June 30, 1852		27,664 91
Amount due by late postmasters who became late during the fiscal year ending June 30, 1853		$435,640 86
Collected within the year	$216,170 90	
Credited on vouchers	967 90	
Closed by suspense	1 27	
Charged to bad debts	16 08	
		217,156 15
Balance uncollected June 30, 1853		218,484 71
Aggregate indebtedness by late postmasters from July 1, 1845, to June 30, 1352		$54,067 62
From July 1, 1852, to June 30, 1853		435,640 86
Total amount for collection from July 1, 1845, to June 30, 1853		489,708 48
Collected and settled during the fiscal year:		
On accounts prior to June 30, 1852	$40,205 71	
On accounts ending June 30, 1853	217,156 15	
Total collections in the year on both classes of accounts		$257,361 86
Leaving yet due the United States on accounts from July 1, 1845, to June 30, 1853, by postmasters who became late during that time, and not in suit		$209,310 92
Same in suit		36,838 70
Total balance due United States on said accounts		246,149 62
Classification of balances still due as above, and not in suit—		
For the year ending June 30, 1846	$59 68	
For the year ending June 30, 1847	118 57	
For the year ending June 30, 1848	63 23	
For the year ending June 30, 1849	589 24	
For the year ending June 30, 1850	820 26	

For the year ending June 30, 1851....	$2,744 25	
For the year ending June 30, 1852....	8,661 22	
For the year ending June 30, 1853....	196,254 47	
		$209,310 92
Balances for the same years in suit—		
For the year ending June 30, 1846....	$3,151 00	
For the year ending June 30, 1847....	728 06	
For the year ending June 30, 1848....	1,220 03	
For the year ending June 30, 1849 ...	1,928 23	
For the year ending June 30, 1850....	1,267 83	
For the year ending June 30, 1851....	3,184 50	
For the year ending June 30, 1852....	3,128 81	
For the year ending June 30, 1853....	22,230 24	
		36,838 70
Total amount due.....		$246,149 62

Credit balances.

Balances due to late postmasters from July 1, 1845, to June 30, 1852.....	$68,480 92	
Of which there has been paid or settled within the year.....	23,218 62	
Leaving still due.....		$45,262 30
Balances due to late postmasters for the fiscal year ending June 30, 1853....	$178,213 73	
Of which there has been paid or settled within the year.....	49,681 65	
Leaving still due.....		$128,532 08

It is proper to remark here that this last-mentioned balance has been largely increased by the allowance of additional commissions under the act of March 3, 1851.

Aggregate of balances remaining due to late postmasters—		
From July 1, 1845, to June 30, 1852..	$45,262 30	
From July 1, 1852, to June 30, 1853..	128,532 08	
		$173,794 38

Suits.

Eighty-three suits have been brought for the recovery of balances due on or before June 30, 1852, amounting (inclusive of ten cases for $44,456 25 in suit in California) in the aggregate to.....	$55,522 06
Six suits were brought for balances that became due subsequent to June 30, 1852, amounting to.....	$20,677 40

Twenty-five of the above suits have been concluded; amount collected thereon	$2,411 23	
In eighteen suits commenced prior to July 1, 1852, there have been collected	4,771 35	
Whole amount collected by suit		$7,182 58
The last-mentioned cases include *three* suits against failing bidders and their guarantors, in which there have been collected		$2,679 97

Many old cases, in which a collection is now and has been for years utterly hopeless, have accumulated on the suit dockets of this office. After a critical examination into the facts of each case, it is deemed advisable to recommend that, with your consent, many of them be closed by charging their respective amounts to the account of bad debts. This disposition of them does not preclude further effort to collect, should anything transpire which gives the least hope of success.

Aggregate amount which may be thus charged to bad debts, and which will be made the subject of a future special report	$28,422 38

Foreign mail statistics.

The following synopsis of these statistics (which have been furnished you in detail) is also respectfully submitted as a part of this report, viz:

Number of letters conveyed by the Cunard, Collins, Bremen, and Havre lines of steamers, from July 1, 1852, to June 30, 1853:

By the Cunard line, whole number		2,774,423
By the Collins line, whole number		1,018,345
By the Havre line, exchange with London and Southampton	219,515	
By the Havre line, exchange with Havre	97,597	
By the Havre line, exchange with Bremen	52,596	
By the Havre line, exchange with Prussia	36,418	
		406,126
By the Bremen line, exchange with London and Southampton	235,793	
By the Bremen line, exchange with Bremen	140,304	
By the Bremen line, exchange with Prussia	36,020	
		412,117
		4,611,011
Unpaid letters by Cunard line		1,641,887
Paid letters by Cunard line		1,132,536
Unpaid letters by Collins line		607,781
Paid letters by Collins line		410,564

Unpaid letters by Havre line	231,360
Paid letters by Havre line	174,766
Unpaid letters by Bremen line	245,993
Paid letters by Bremen line	166,124
	4,611,011

Number of newspapers by same lines, and the postage on the same:

By the Cunard line	1,034,163
By the Collins line	305,945
By the Havre line, in closed mails	4,987
By the Bremen line, in closed mails	3,613
By the Prussian closed mails	33,155
	1,381,863

Amounting, at 2 cents each, to $27,637 26.

Amount of postage on letters by Cunard and Collins lines, respectively, collected in the United States and Great Britain:

By Cunard line, collected in United States	$355,253 14
By Cunard line, collected in Great Britain	222,780 25
	578,033 39

By Collins line, collected in United States	$154,188 88
By Collins line, collected in Great Britain	79,084 21
	233,273 09

Amount of postages by Havre line	$100,070 44

Amount of postages by Bremen line	$100,297 79

The postal accounts with Great Britain exhibit balances due that government as follows:

3d quarter, 1852	$21,810 96
4th quarter, 1852	34,922 02
1st quarter, 1853	58,496 97
2d quarter, 1853, not audited	35,131 80
	150,361 75

In the account of 2d quarter 1853, there was refunded to the United States the sum of $6,496 06, postage erroneously credited to the British office, upon newspapers for foreign countries beyond England, from the time the postal treaty with that kingdom went into operation to April, 1853.

Amount paid Great Britain on closed mails.

quarter, 1852	$7,148 70
h quarter, 1852	15,699 24
t quarter 1853	26,139 52
l quarter, 1853, not audited	21,093 73
	70,081 19

Amount received from Great Britain on closed mails.

d quarter, 1852	$11,379 96
th quarter, 1852	11,465 29
st quarter, 1853	12,162 28
d quarter, 1853, not audited	13,214 69
	48,222 22

The amount received from Great Britain on loose letters, collected on board Atlantic steamers, is as follows:

3d quarter, 1852	$325 25
4th quarter, 1852	326 86
1st quarter, 1853	305 06
2d quarter, 1853	311 99
	1,269 16

The amount paid Great Britain on same is as follows:

3d quarter, 1852	$29 86
4th quarter, 1852	
1st quarter, 1853	
2d quarter, 1853	
	29 86

The amount received from Great Britain on dead letters returned to London office is as follows:

3d quarter, 1852	$3,757 50
4th quarter, 1852	4,024 67
1st quarter, 1853	2,309 72
2d quarter, 1853	3,933 03
	14,024 92

The amount paid Great Britain on dead letters returned to Washington office is as follows:

3d quarter, 1852	$418 53
4th quarter, 1852	499 95

1st quarter, 1853	$366 8
2d quarter, 1853	457 5
	1,772 6

The balances on the adjustment of the accounts between the United States and Bremen, for the fiscal year, are as follows:

Balance due United States to 31st December, 1852	6,106 12
Balance due Bremen to 30th June, 1853	3,553 67
Balance in favor of United States	2,552 45

The weight of the closed mails, by the various lines of steamers, is as follows:

	Ounces.
By Cunard line, Canada, California, and Havana	180,685½
By Cunard line, Prussia	70,451½
	251,137
By Collins line, Canada, California and Havana	7,296½
Prussia	40,839
Bremen	27,290
	75,425½
By Bremen line	13,083
By Havre line	13,279

The postages on the mails received and sent between the United States and the British provinces in North America, under the postal arrangements, as returned by postmasters, have been as follows:

Mails received, unpaid	$22,918 55	
Mails received, paid	17,364 04	
		$40,282 59
Mails sent, unpaid	27,448 43	
Mails sent, paid	20,350 70	
		47,799 13
Total postages		88,081 72
Collected in British provinces		$44,812 47
Collected in the United States		43,269 25
Balance in favor of the provinces		1,543 22

The number of letters conveyed between New York, New Orleans, Boston, &c., and Havana, California, Oregon, &c., via Chagres and Panama, and the amount of postages collected thereon, are as follows:

Number of letters—		
From New York	1,057,992	
To New York	885,572	
		1,943,564
Amount of postage—		
From New York	$96,503 02	
To New York	96,678 27	
		$193,181 29
Number of letters—		
From New Orleans	189,039	
To New Orleans	171,998	
		361,037
Amount of postage—		
From New Orleans	$18,951 08	
To New Orleans	15,956 04	
		$34,907 12
Number of letters—		
From Boston	167,822	
To Boston	233,921	
		401,743
Amount of postage—		
From Boston	$14,711 55	
To Boston	20,235 85	
		$34,947 40
Number of letters—		
From Charleston	219	
To Charleston	970	
		1,189
Amount of postage—		
From Charleston	$19 79	
To Charleston	81 98	
		$101 77
Total number of letters—		
New York	1,943,564	
New Orleans	361,037	
Boston	401,743	
Charleston	1,189	
		2,707,533
Total amount of postages—		
New York	$193,181 29	
New Orleans	34,907 12	

Boston	$34,947 40	
Charleston	101 77	
		$263,

The number of letters and newspapers, and the amount of po by the Charleston and Havana line, are as follows:

Number of letters—		
From Charleston	14,446	
To Charleston	40,060	
Number of papers—		
From Charleston	11,529	
To Charleston	5,664	
Amount of postage—		
From Charleston	$1,460 86	
To Charleston	5,711 70	
		$7,
Number of letters—		
From Savannah	9,496	
To Savannah	4,162	
Number of papers—		
From Savannah	15,891	
To Savannah	38	
Amount of postage—		
From Savannah	$502 78	
To Savannah	270 29	
		$
Total number of letters—		
Charleston	54,506	
Savannah	13,658	
Total number of papers—		
Charleston	17,193	
Savannah	15,929	
Total amount of postages—		
Charleston	$7,172 56	
Savannah	773 07	
		$7,

The number of letters and papers, and amount of postage, by the New Orleans and Vera Cruz line, are as follows:

Number of letters—		
From New Orleans	772	
To New Orleans	1,333	
		2,105
Number of papers—		
From New Orleans	1,438	
To New Orleans	1,699	
		3,137
Amount of postage—		
From New Orleans	$287 84	
To New Orleans	343 00	
		$630 84

The following statements are submitted for a like purpose as the foregoing, viz:

That marked A, exhibits the expenditures of the Post Office Department, under their several heads, for the year ending 30th June, 1853.

That marked B, exhibits the receipts of the Post Office Department for the same period.

That marked C, exhibits the number of letters, circulars, handbills, newspapers, and pamphlets, received and delivered by carriers, and amount received for carriage, in the cities of New York, Boston, Philadelphia, Baltimore, and New Orleans, under the regulations established in pursuance of the 10th section of the "Act to reduce and modify the rates of postage in the United States, and for other purposes," approved March 3, 1851.

That marked D, exhibits the amounts actually credited for the transportation of the mails, by States, and the amount of postages collected on the same.

The rapid and constant growth of our country in wealth, population, education, and facilities for intercommunication, and intercourse with foreign nations, together with the rapid settlement of new territories and organization of new communities, has occasioned a like increase in the current business of this office. The last reduction of postage has also caused a large addition to the number of letters, newspapers, and other matter, passing through the mails, and consequently imposed upon it a corresponding amount of additional labor. The recent increase of the clerical force of the office has, therefore, been found scarcely sufficient for the despatch of its immense business with that promptitude which is always so desirable; and has increased the necessity, which existed before the addition, for more room for their accommodation, and the convenient arrangement and safe-keeping of the accounts, contracts, vouchers, &c.

Respectfully submitted:

WM. F. PHILLIPS, *Auditor.*

Hon. JAMES CAMPBELL, *Postmaster General.*

A.

Statement exhibiting the expenditures of the Post Office Department, under their several heads, for the fiscal year ended June 30, 1853.

	Third quarter, 1852.	Fourth quarter, 1852.	First quarter, 1853.	Second quarter, 1853.	Total under each head.	Aggregate amount.
Compensation to postmasters	$347,594 46	$318,237 08	$344,751 25	$396,894 26	$1,406,477 05	
Extra compensation, act 3d March, 1851	12,139 63	19,391 71	30,153 12	352,840 64	*414,525 10	
Ship, steamboat, and way letters	7,097 57	6,434 09	4,792 13	4,782 04	23,105 83	
Transportation	1,173,553 54	1,226,818 93	1,238,750 36	1,267,185 22	4,906,308 05	
Wrapping paper	8,723 48	11,676 17	9,945 22	11,109 07	41,453 94	
Office furniture	521 67	†1,261 87	575 43	882 53	3,241 50	
Advertising	7,468 51	†49,077 40	14,262 23	8,537 86	79,346 00	
Mail bags	9,684 44	12,385 86	13,106 71	14,131 52	49,308 53	
Blanks	15,495 15	17,916 24	15,735 43	21,909 40	71,056 22	
Mail locks, keys, and stamps	2,442 50	3,121 25	7,026 55	2,143 50	14,733 80	
New mail locks and keys	6,406 45	7,762 60	3,416 62	1,349 87	18,935 54	
Mail depredations, and special agents	11,203 64	21,227 79	12,928 64	9,915 36	55,275 43	
Clerks for offices	130,208 94	†126,797 71	129,626 99	123,186 60	509,820 24	
Official letters received by postmasters	132 89	123 90	105 55	110 07	472 41	
Postage stamps	30 00	3,749 75	80 00	4 75	3,864 50	
Stamped envelopes	.....	.....	.....	10,391 03	10,391 03	
Post office laws, list and regulations	.....	1,670 00	.....	.....	1,670 00	
Repayment for "dead letters"	12 71	8 84	9 83	2 88	34 26	
Payments to letter carriers	27,453 28	28,766 62	30,863 81	25,934 02	113,017 73	
Stamps returned to department, old issue	3 45	29 90	.....	34 70	68 05	
Stamps on hand overcharged, old issue	.....	.....	85 90	.....	85 90	
Miscellaneous payments	30,517 86	†34,046 55	27,341 40	24,502 50	116,408 31	
Miscellaneous account, British mails	51,855 84	.....	41,219 51	46,516 73	‡139,592 08	
Miscellaneous account, Bremen mails	.....	.....	.....	3,565 09	‖3,565 09	
	1,842,546 01	1,890,504 26	1,924,776 08	2,324,929 64	.....	$7,982,756 59

* This sum is on account of extra commissions allowed postmasters for the three quarters just preceding 1st April, 1853.

† The following sums, under their several heads, are included in the "expenditures" of this year, being for "incidental expenses" of post offices in California prior to June 30, 1851, in pursuance of the appropriation of $66,000 under act of March, 1851, viz:

Office furniture	$375 50
Advertising	3,025 82
Clerks for offices	1,976 09
Miscellaneous	988 04
	6,365 45
Deduct excess of commissions heretofore allowed	118 53
Leaving this sum chargeable to said appropriation this year	6,246 92

‡ This sum is in full payment of the ascertained balances, including premium on bills of exchange, arising from British postage, and found due the United Kingdom for the second, third, and fourth quarters of 1851, and first, second, and third quarters of 1852, $140,124 96, deducting the amount due United States on account of first quarter of 1851, $532 88.

‖ In payment of the balance due to the Bremen office on postages from 1st January to 16th June, 1853, including premium on bill of exchange.

B.

Statement exhibiting the receipts of the Post Office Department, under their several heads, for the fiscal year ended June 30, 1853.

	Third quarter, 1852.	Fourth quarter, 1852.	First quarter, 1853.	Second quarter, 1853.	Total under each head.	Aggregate amount.
Letter postage	$670,580 88	$668,115 78	$755,754 16	$749,514 60	$2,843,965 42	
Stamps sold	371,496 98	394,200 45	437,663 58	425,901 11	1,629,262 12	
Fines	208,147 82	127,950 21	143,848 26	131,387 13	611,333 42	
Receipts on account of emolument	5 00	2 50	.....	75 00	82 50	
Receipts on account of letter carriers	12,627 67	10,207 60	7,431 01	8,119 73	38,386 01	
Receipts on account of damages, failing contractors	27,453 28	28,766 62	30,863 81	25,934 02	113,017 73	
Receipts on account of dead letters	944 00	140 00	100 00	200 00	1,384 00	
Miscellaneous receipts	.....	40 00	.....	5 00	45 00	
	149 01	190 19	2,899 73	9 57	3,248 50	
	1,291,404 64	1,229,613 35	1,378,560 55	1,341,146 16	.....	$5,240,724 70

NOTE.—The following sums, ascertained to have accrued from British postage, and due the United Kingdom, are included in the items of "letter postage" for each quarter, as follows:

3d quarter, 1852	$21,810 96
4th quarter, 1852	34,922 02
	56,732 98

C.

Statement of the number of letters, circulars, handbills, newspapers, and pamphlets received and delivered by carriers, and amount received for carriage, in the cities of New York, Philadelphia, Boston, Baltimore, and New Orleans, under the regulations established in pursuance of the 10th section of the act entitled "An act to reduce and modify the rates of postage in the United States, and for other purposes," approved March 3, 1851.

Places.	Number of letters.	Number of circulars, handbills, &c.	No. of newspapers & pamphlets.	Total No. of letters, circulars, newspapers & pamphlets.	Amount received for carriage.
New York	2,467,794	210,625	151,221	2,829,640	$52,218 23
Philadelphia	1,701,554	43,433	248,514	1,993,491	35,868 18
Boston	817,600	13,357	40,413	871,370	8,541 29
Baltimore	674,710	27,232	120,434	822,376	14,347 66
New Orleans	100,559	16,308	10,040	226,907	2,219 93
Aggregate	5,762,207	310 955	570,622	6,743,784	113,195 29

The rates charged for carrying of letters, papers, &c., vary in the several cities, which accounts for the difference in the amount received in the respective cities.

D.

The following table shows the amounts actually credited for the transportation of the mails, by States and Territories, and the amount of postages collected in the same.

States and Territories.	Letter postage.	Newspaper postage.	Stamps sold.	Total postages collected.	Transportation.
Maine	$68,300 73	$15,433 29	$41,460 92	$125,194 94	$52,767 88
New Hampshire	43,276 13	10,740 77	27,686 63	81,703 53	31,999 45
Vermont	41,041 08	12,000 34	25,597 44	78,638 86	62,476 85
Massachusetts	230,526 28	31,013 50	192,427 04	453,966 80	130,117 13
Rhode Island	22,337 19	3,164 98	21,875 62	47,377 79	12,139 72
Connecticut	70,545 94	15,156 57	60,661 99	146,364 50	64,173 13
New York	686,509 28	111,752 43	377,254 35	1,175,516 06	455,019 76
Delaware	9,660 38	1,989 22	4,661 11	16,310 71	9,412 00
New Jersey	58,461 42	8,639 16	21,973 59	89,074 17	74,139 55
Pennsylvania	273,372 91	61,001 69	153,933 70	488,308 30	238,019 69
Maryland	83,189 05	15,443 91	53,925 15	152,158 11	191,586 20
District of Columbia	18,595 01	3,191 64	16,046 24	37,832 89	.....
Virginia	90,894 86	28,112 26	64,465 07	183,472 19	313,234 72
North Carolina	28,838 43	12,107 45	19,805 63	60,751 51	175,630 59
South Carolina	41,302 78	10,144 03	31,538 94	82,985 75	127,169 19
Georgia	76,316 01	19,079 75	47,404 38	142,800 14	215,238 78
Florida	8,721 69	2,447 31	5,709 83	16,878 83	38,661 99
Alabama	53,804 18	15,491 93	26,795 74	96,091 85	178,543 35
Mississippi	42,228 09	13,655 44	17,224 68	73,108 21	115,924 92
Texas	29,916 73	8,078 03	9,169 70	47,164 46	139,362 19
Kentucky	61,080 71	15,977 08	35,484 81	112,542 60	139,038 15
Michigan	53,048 34	14,470 76	29,238 09	96,757 19	136,260 14
Wisconsin	44,493 41	13,132 09	15,945 33	73,570 83	46,608 00
Louisiana	80,822 52	13,440 96	33,906 70	128,170 18	90,420 73
Tennessee	45,272 79	13,943 83	26,484 48	85,701 10	92,885 29
Missouri	58,435 03	12,765 01	27,581 78	98,781 82	140,454 41
Illinois	99,425 85	28,060 78	47,851 20	175,346 83	181,011 19

Ohio	202,317 11	49,295 44	124,147 17	375,759 72	303,104 37
Indiana	77,520 25	24,399 02	35,420 16	137,339 43	109,392 96
Arkansas	16,188 71	4,595 27	4,321 91	25,105 89	90,859 15
Iowa	23,776 21	7,234 61	9,969 40	40,980 22	36,393 82
California	93,951 04	13,111 56	16,089 40	123,152 00	174,243 02
Oregon Territory	6,276 31	1,580 35	1,940 69	9,797 35	47,682 16
Minnesota Territory	1,630 11	560 84	1,338 91	3,529 86	2,386 28
New Mexico Territory	351 17	65 12	80 93	517 22	19,647 22
Utah Territory	715 15	41 51	199 00	955 66	3,259 70
Nebraska Territory	459 54	60 64	.....	520 18	.....
Washington Territory	149 66	12 49	74 74	236 89	.....
	2,843,752 06	611,420 06	1,629,292 45	5,084,464 57	4,199,951 68
Add Bremen postages $8,925 72					
Deduct miscellaneous entries 8,712 36					
	213 36	86 64	30 33		
	2,843,963 42	611,333 42	1,629,262 12		

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